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The Hunterian Lectures
ON
COLOUR VISION AND COLOUR BLINDNESS.

Delivered before the Royal College of Surgeons of England on Feb. 1st and 3rd, 1911,

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LECTURE I.

Delivered on Feb. 1st.

GENTLEMEN,—Colour blindness is not a good name for the condition to which it is applied, and still worse is the use of the term red blindness or green blindness. In the majority of cases of colour blindness there is no blindness to colours in the ordinary acceptation of the term; a green, red, or yellow light produces a very definite sensation of colour. Those who confuse red and green do so, not because they see red as green or green as red, but because both give rise to a similar sensation of colour. The word light must be used in the sense of referring to those waves which excite the organ of vision. Because two stimuli excite a sensation of light it does not follow that they are similar. We cannot, for instance, distinguish by the eye polarised light from non-polarised light. We have to distinguish between the physical stimuli by their physical properties apart from their effect on the organ of vision. I propose to divide the subject into two parts and in this lecture to deal with the theory and facts of colour-vision and colour blindness, and in the second lecture with the detection of colour blindness from a practical point of view.

I.—THE THEORY AND FACTS OF COLOUR VISION AND COLOUR BLINDNESS.

The following is the theory which I have propounded in order to explain vision and colour vision. A ray of light impinging on the retina liberates the visual purple from the rods and a photograph is formed. The rods are concerned only with the formation and distribution of the visual purple, not with the conveyance of light impulses to the brain. The ends of the cones are stimulated through the photo-chemical decomposition of the visual purple by light (very probably through the electricity which is produced), and a visual impulse is set up which is conveyed through the optic nerve fibres to the brain. The character of the stimulus differs according to the wave-length of the light causing it. In the impulse itself we have the physiological basis of the sensation of light, and in the quality of the impulse the physiological basis of the sensation of colour. The impulse being conveyed along the optic nerve to the brain stimulates the visual centre, causing a sensation of light, and then passing on to the colour-perceiving centre causes a sensation of colour. But though the impulses vary in character according to the wave-length of the light causing them, the retino-cerebral apparatus is not able to discriminate between the character of adjacent stimuli, not being sufficiently developed for the purpose. At most seven distinct colours are seen, whilst others see in proportion to the development of their colour-perceiving centres only six, five, four, three, or two. This causes colour-blindness, the person seeing only two or three colours instead of the normal six, putting colours together as alike which are seen by the normal sighted to be different. In the degree of colour blindness just preceding total only the colours at the extremes of the spectrum are recognised as different, the remainder of the spectrum appearing grey. Though my own opinion is that the ordinary form of congenital colour-blindness is caused by a defective development of the portion of the brain whose function is the perception of colour we must not exclude any portion of the retino-cerebral apparatus, defect of which would have exactly the same result. It will be noticed that the theory really consists of two parts, one concerned with the retina and the other with the whole retino-cerebral apparatus. I shall in these lectures use the word cerebral in this sense. I am not aware of a single fact which does not support this theory, and I have used it to predict facts which have subsequently been rediscovered by others and now form a part of our common knowledge.

THE VISUAL PURPLE THE ESSENTIAL FACTOR IN VISION.

I will now state very briefly the evidence which supports the view that the visual purple is the essential factor in the retina which enables it to transform light into visual impulses.

1. *Anatomical.*—In the fovea of the retina only cones are to be found. Immediately external to this each cone is surrounded by a ring of rods. The number of rings of rods round each cone increases as the periphery is reached. The outer segments of the cones are situated in a space which is filled with fluid. The external limiting membrane retains this fluid in its place. I find[1] four depressions or canals which lead into the larger depression of the external fovea. These canals appear to have smaller branches and serve to conduct the visual purple into the part of most acute vision. The cones which are present in the fovea have very long outer segments which would present a greater surface for photo-chemical stimulation. The visual purple is only to be found in the rods and not in the cones. I determined to ascertain whether the visual purple could be seen between the cones in the fovea. I have examined under the microscope the retinas of two monkeys which had been kept previously in a dark room for 48 hours. The yellow spot was the reddest part of the whole retina, and the visual purple was seen to be between and not in the cones.[2]

2. *Physiological analogy with other body cells.*—It is far more probable that the rods should produce a secretion which would affect other cells rather than themselves. The liver cells do not form bile in order to stimulate themselves, and the internal secretions are produced to affect other parts of the body. I am not aware of a single instance in which a cell produces a secretion which has the function of stimulating the cell producing it. The visual purple is regenerated in the rods by the pigment cells in connexion with them.

3. *The relation between the foveal and the extra-foveal regions.*—As the fovea only contains cones, if any of the older theories of the relative functions of the rods and cones were true, we should expect to find qualitative differences between the foveal and extra-foveal regions. This is not the case, but, as we should expect, if the visual purple were the visual substance all the phenomena which have been attributed to the visual purple should be found in the fovea. Von Tschermak, Hering, Hess, Garten, and others have found the Purkinje phenomenon, the variation in optical white equations by a state of light and dark adaptation, the colourless interval for spectral lights of increasing intensity, and the varying phases of the after-image in the fovea only gradually diminished.

4. *The varying sensibility of the fovea.*—The fovea is in some conditions the most sensitive part of the whole retina and with other conditions the least. Helmholtz has recorded some of these facts and regarded them as quite inexplicable. We have, however, an easy explanation of the facts on the assumption that when there is visual purple in the fovea this is the most sensitive part of the whole retina, but when there is none there time must elapse before it can diffuse into the spot and in the meantime it is insensitive to light. I have devised several experiments which show the visual purple flowing into the foveal region. The following simple experiment shows this very well. If on awaking in the morning the eyes be directed to a dull white surface, as, for instance, the ceiling, the region of the yellow spot will appear as an irregular black spot and light will appear to invade this spot from without inwards. If the eyes be now closed and covered with the hands purple circles will form round the centre of the field of vision and gradually contracting reach the centre. When the circle reaches the centre it breaks up into a star-shaped figure and becomes much brighter. It then disappears and is followed by another contracting circle. Now it will be noticed that if one eye be opened when the circle has broken up, a brilliant rose-coloured star much brighter than any other part will be seen in the centre of the field of

[1] Journal of Physiology, vol. xli., p. 274.
[2] Transactions of the Ophthalmological Society, 1902, p. 300.

vision. This has the exact hue of the visual purple. If we wait until the star has disappeared before opening an eye the macular region appears as a black spot as before. This conclusively shows that the central portion of the retina is sensitised from the peripheral portions.

5. *Chemical analogy.*—The visual purple gives a curve which is very similar to that of many other photo-chemical substances. We know that with photo-chemical substances the chemical effect is not proportional to the intensity of the light. That is, a different curve is obtained with weak light from that which is formed with light of greater intensity. It is reasonable, therefore, to suppose that the visual purple which is formed by the pigment cells under the influence of a bright light would be somewhat different in character from that which is formed in darkness. Again, from the chemical analogy which I have just given, even if the visual purple were of the same character, we should not expect similar curves with different intensities of light. It is probable that both factors are in operation. This deduction gives an explanation of the Purkinje phenomenon, or the fact that when the eyes are adapted to darkness the point of greatest luminosity is shifted more towards the violet end of the spectrum. Some dichromics who have shortening of the red end of the spectrum have a luminosity curve which is very similar to that of a normal-sighted person with a spectrum of lesser intensity. We have only to assume in these cases either that the receiving nervous apparatus is less responsive or that the visual purple formed at one intensity of light is similar to that formed at a lower intensity by a normal-sighted person. We also have an explanation of other conditions, such as erythropsia or red vision, white objects appearing more or less red. If we suppose that the eye has remained in a state of light adaptation, the visual purple produced being more sensitive to the red rays, objects appear of this colour. As we should expect, erythropsia is frequently associated with hemeralopia, or difficulty in seeing in the twilight, the eyes being adapted to light and not to darkness. In green vision the eyes have probably remained in a condition of more or less adaptation to darkness, and are therefore more sensitive to the green rays.

6. *Disappearance of lights falling upon fovea.*—If the cones are not sensitive to light a ray of light falling upon the fovea alone and not upon the adjacent portion of the retina containing rods should produce no sensation of light, provided that there is not already any visual purple in the fovea. It has been known to astronomers for a long time that if a small star in a dark portion of the sky be steadfastly looked at it will disappear from view, whilst other stars seen by indirect vision remain conspicuously visible. The following simple experiment shows the same thing. If a piece of black velvet about three feet square on a door have a pin put in the centre, and the source of light be behind the observer, the pin will be brightly illuminated; and on looking at it (the observer not being too close) and keeping the eye quite still the pin will disappear, the visual substance diffused into the fovea centralis being used up and not renewed. When viewed by indirect vision it is impossible to make it disappear in this way. When I have taken great care to have very dark surroundings and have used only one eye I have made moderately bright lights disappear in this manner. These facts have been attributed to a defective sensibility of the fovea for feeble light. The important point, however, that the light is at first most clearly seen by the fovea and only subsequently fades has been overlooked. If these facts were due to a defective sensibility of the fovea the star or light would not be visible at first.

7. *Illusion of moving light.*—If a small light be looked at fixedly in a dark room it will appear to move until it comes apparently so close that it could be grasped. The reason of this is that the eye moves so that the light falls upon a more peripheral part of the retina. I find that the movement takes place as if some photo-chemical substance acted under the influence of gravity. For instance, when standing the light appears to travel upwards; resting the head on one side it appears to travel in the opposite direction. The light appears as if we were looking straight at it and the eye which is covered up remains directed straight at the object. When the second eye is opened two images of the light are seen and the image which is seen with the periphery of the first eye rapidly coalesces with that seen directly by the second eye.

8. *Purple after-image.*—A positive after-image of a purple (rose) colour can be obtained after white light or any spectral colour. It will be noticed that when there is little light during the subsequent observation the colour of an after-image inclines to blue or green, when there is more light towards purple or red.

9. *Currents seen in the field of vision not due to the circulation.*—It occurred to me that if there were canals in the retina which promoted the easy flow of the visual purple into the fovea we ought to obtain evidence of the currents flowing along these channels entoptically. I found that this was the case and that the currents could be seen in numerous ways.[3] If one eye be partially covered with an opaque disc whilst both eyes are directed forwards in a not too brightly illuminated room and special attention be paid to the covered eye an appearance of whirling currents will be seen with this eye. These currents appear to be directed towards the centre and have a very similar appearance to a whirlpool which is fed by four main branches. These, again, are fed by smaller branches which continually change their paths. On closing both eyes all the portion in which the whirling currents are seen appears as dull purple. These currents cannot be due to vessels, because we know that the centre of the retina corresponding to the point where the greatest movement is seen is free from vessels. The appearance is also very different from that of the movement of blood in vessels. The currents can also be seen in the light, in the dark, through yellow-green glass, and with intermittent light. The main branches form a star-shaped figure with four rays. The currents carry the visual quality, colour, and brightness from whence they come into an after-image. They also tend to move an after-image towards the centre. The currents behave as if they ran in definite channels, but could also overrun, on any further stimulus, the banks of the channels. For instance, a thin bright line with a little more light appears as a broad band and the central star figure will enlarge into a rhomboid, oval, or disc. Movements of the eyes affect the broad currents in the outer part of the field of vision.

10. *Pressure figure.*—Pressure on the front of the eye causes the star-shaped figure to be seen, and this changes into a rhomboid with a little more pressure.

11. *Macular star.*—It occurred to me that we ought to obtain evidence of the canals in the retina in cases where the outflow from the retina is obstructed as by tumour. I find this is the case; the star-shaped figure given by Sir Victor Horsley in his paper on Tumour of the Frontal Lobe[4] is almost exactly the same as that seen subjectively.

12. *Entoptic appearance of cone mosaic.*—Appearances corresponding to the cone mosaic of the retina may be seen in several ways.[5] The appearance seen corresponds to the cone distribution of the retina as viewed from its outer side, the portions occupied by rods appearing as dark spaces.

13. *Visual acuity.*—Visual acuity is most acute with the fovea and diminishes from within outwards. It corresponds very fairly with the cone distribution of the retina. On the other hand, there is not one single fact which points to the rods as being light sentient organs. This is well recognised by those best qualified to judge.[6]

I could give many more facts in support of the view that the visual purple is the visual substance, and I have not yet had brought to my notice any fact which is not readily explicable on that hypothesis. There may be other photo-chemical substances in the retina, but there is not the slightest evidence that such is the case. I regard the visual purple as the sole visual substance. We could, of course, split the visual purple into innumerable simpler photo-chemical substances, each of which has its own absorption curve, having its maximum in some particular part of the spectrum. It is difficult to say at present exactly how the visual purple acts as a stimulus transformer, but this is because so many plausible hypotheses immediately occur to us. It is very probable that light acting upon the visual purple, is, according to its wave-length, absorbed by particular atoms or molecules, the amplitude of their vibrations being increased. These vibrations may cause corresponding vibrations in certain discs of the outer segments of the cones, which seem especially constructed to take up vibrations. We know that when light falls on the

[3] Journal of Physiology, vol. xli., p. 269.
[4] Brit. Med. Jour., p. 566, 1910.
[5] Journal of Physiology, vol. xli., p. 266.
[6] Nagel: Physiologie des Menschen, vol. iii., p. 107.

retina it causes an electric current. We know how the telephone is able through electricity to convey waves of sound, and something similar may be present in the eye, the apparatus being especially constructed for vibrations of small wave-length. The current of electricity set up by light may cause the sensation of light and the vibrations of the atoms or molecules the sensation of colour.

In all vital processes there is a condition of katabolism or chemical change in the protoplasm and an anabolic or building-up process, in which the protoplasm is restored to its normal state. We have therefore to consider two definite processes in the visual purple—namely, a breaking down of the visual purple photo-chemically by light and its restoration by the pigment cells and rods. Under ordinary conditions of light and during the whole of the day-time the visual purple is continually being bleached and re-formed. It is obvious, therefore, that when the eye has been kept in the dark and is then exposed to light, an observation taken immediately will not be comparable with one taken a few seconds afterwards, because in the first observation we have only to consider the katabolic change, whilst in the second observation the anabolic change has to be considered as well, as the visual purple has to be reformed for subsequent seeing. There appears to be very little evidence in ordinary circumstances of this anabolic process; for instance, if we fatigue the eye with sodium light in a dark room, and then immediately examine a spectrum, we find that though all the yellow has disappeared there is no increase in the blue—in fact, the blue seems rather diminished than otherwise. Again, there is not the slightest diminution in either the red or green, showing conclusively that yellow cannot be a compound sensation made up by a combination of red and green. We must therefore explain in another way the apparent trichromatism of normal colour vision, which is so well known to every photographer, especially those who are concerned with colour photography. If my theory of the evolution of the colour-sense be the correct one and we have cases of colour-blindness corresponding to every degree of the evolutionary process, we have an explanation of the facts. In past ages all saw the rainbow made up of only three colours—red, green, and violet. When a new colour (yellow) appeared between the red and green, it is obvious that a mixture of red and green would give rise, not to red-green, but to the colour which had replaced it—namely, yellow. The retina, therefore, corresponds to a layer of photo-chemical liquid in which there are innumerable wires each connected with a galvanometer. When light falls upon a portion of this fluid the needle of the galvanometer corresponding to the nearest wire is deflected. The wires correspond to the separate fibres of the optic nerve, and the galvanometers to the visual centres of the brain.

Cases of colour-blindness may be divided into two classes, which are quite separate and distinct from each other, though both may be present in the same person. In the first class there is light as well as colour loss. In the second class the perception of light is the same as the normal sighted, but there is a defect in the perception of colour. In the first class certain rays are either not perceived at all or very imperfectly. Both these classes are represented by analogous conditions in the perception of sounds. The first class of the colour-blind is represented by those who are unable to hear very high or very low notes. The second class of the colour-blind is represented by those who possess what is commonly called a defective musical ear. Colour-blind individuals belonging to this class can be arranged in a series. At one end of this series are the normal sighted, and at the other end the totally colour-blind. The colours appear at the points of greatest difference, and I have classified the colour-blind in accordance with the number of colours which they see in the spectrum. The normal sighted may be designated hexachromic; those who see five colours, pentachromic; those who see four, tetrachromic; those who see three, trichromic; those who see two, dichromic; and those who see none, totally colour-blind. There are many degrees included in the dichromic class. There may, or may not, be a neutral band, and this is widest in those cases approaching most nearly to total colour-blindness. I have recorded a case of a patient who was colour-blind with one eye. It is an interesting fact that for form vision the colour-blind eye was much the better of the two, and he could recognise fine lines in the spectrum with this eye which were not visible to the other. He saw the two ends of the spectrum tinged with colour and the remainder grey. It will be noticed that his colour sensations were limited to the extreme red and the extreme violet—namely, those colours which present the greatest physical contrast to each other. Neither the red nor the violet appeared of the nature of a primary colour, but gave the impression that they were largely diluted with grey. A theory of colour vision must account for a case of this kind and also for the other varieties and degrees of colour-blindness. The trichromic are a very important class, and any theory must account for the fact that they see yellow as red-green, and blue as violet-green. As we should theoretically expect, when there is shortening of the spectrum, the centres of the colours are moved towards the unshortened side.

I will now show on the screen some representations of pictures painted by colour-blind persons. The upper picture is the copy, and the one below is the one which has been painted by the colour-blind artist. He has been given a selection of colours on plates and from them has selected the one which he thought appropriate in each case. It will be noticed that the mistakes made are characteristic of the colour perception of the person painting them. Whenever I show these pictures I am asked why it is that these characteristic mistakes should be made and that the true colour of the object is not used instead. This undoubtedly would be the case if the artist were allowed to match the colours by directly comparing them. But he is not able to do this; he looks at the copy and decides upon the colour of an object and then looks for the colour with which to paint it.

A man rarely uses a hue which he does not see as a definite colour, and therefore it has been quite possible for me to pick out those who are more or less colour-blind in the exhibitors of the picture gallery. For instance, if a trichromic have to paint a yellow object he will decide after looking at it whether it be a red or green in his estimation and represent it accordingly. He will be greatly influenced by the nature of colours in its immediate proximity, because simultaneous contrast is increased in the colour blind. Thus he will certainly represent a yellow which is adjacent to a red as green and a yellow which is adjacent to a green as red.

THE EVOLUTION OF THE COLOUR SENSE.

There can be no doubt that an evolution of the colour sense has taken place; the only point is how and when did this occur. It is obvious that in those low forms of animal life in which the most rudimentary sense of sight exists there can be no sense of colour. The animal which can only perceive light and shade can only discriminate in a rough way between varying intensities of the stimulus. It is obvious, therefore, that the sense of light must have been developed first and then the sense of colour. The sense of sight must have been first developed for those waves which produce their maximum effect upon the sensitive protoplasm. The next process of development would be for the protoplasm to become sensitive to the waves above and below those which produced the primary stimulus. In the physical stimulus which produces the sensation of light there are two factors to be considered, the length of the wave and its amplitude, the greater the amplitude within certain limits the greater the intensity of the sensation. The wave-length of the physical stimulus is the physical basis of the sensation of colour. How did the sensations of colour first arise? Let us suppose that the physiological effect of the physical stimulus differed according to the wave-length of the physical stimulus.

Let us consider that the eye has reached a stage in which it has become sensitive to a fair range of the spectral rays—that is to say, evolution has proceeded to the extent of making the protoplasm sensitive to rays of light considerably above and below those which first caused a sensation of light. We now have an eye which is sensitive to the greater part of the rays which form the visible spectrum. It is, however, an eye which is devoid of the sense of colour; no matter from what part of the spectrum the rays be taken, the only difference which will be appreciated will be one of intensity. I, however, mentioned that in the physical stimulus there were two variables—wave-length and amplitude of the wave. Let us now suppose that a fresh power of discrimination was added to the eye and that it became able to discriminate between different wave-lengths of light. What would be the most probable commencement of development of the sense of colour? Undoubtedly, to my mind, the differentiation of the physical stimuli which were physically most different.

That is to say, the eye would first discriminate between the rays which are physically most different in the visible spectrum, the red and the violet—that is, presuming the eye had become sensitive to this range. It is probable that it had not, and there has been a steady evolution as to the extent of the spectrum perceived as well as to colour. We have examples of this in those cases of defective light perception in which there is shortening of the red or violet end of the spectrum.

Let us now work out the evolution of the colour sense on the assumption that the rays which are physically most different—namely, red and violet were those which were first differentiated. We know that the various rays differ in their effects on various substances; the red rays are more powerful in their heating effects, whilst the violet rays are more active actinally, as is well known by the readiness with which they act upon a photographic plate, which is scarcely affected by red light. We should now have an individual who would see the spectrum nearly all a uniform grey of different degrees of luminosity, but with a tinge of red at one end and a tinge of violet at the other. There is a great deal of evidence to show that this is how the colour sense was first developed. For instance, in the degree of colour blindness just preceding total the spectrum is seen in this way. I have also examined a woman who became totally colour blind apparently through disease of the ear. I examined her when she had recovered a certain amount of colour sensation; her sensations were confined to the extreme red and violet. As the colour sense developed it was not necessary that the rays should differ so much in refrangibility before a difference was seen, and so the red and violet gradually invaded the grey or neutral band, until at a certain point they met in the centre of the spectrum. Such cases are called dichromics.

The next stage of evolution of the colour sense is when the colour-perceiving centre is sufficiently developed to distinguish three main colours in the spectrum. The third colour, green, appears in the centre of the spectrum—that is, at the third point of the greatest physiological difference. In accordance with the prediction of the theory, I found a considerable number of persons who saw the spectrum in this way, about 1·5 per cent. of men. The trichromic see three main colours in the spectrum—red, green, and violet. They usually describe the spectrum as consisting of red, red-green, green, green-violet, and violet. They do not see yellow and blue as distinct colours and are therefore in continual difficulty over them. There are very few of the tests in general use which can detect them, especially if names be not used. They will usually pass a matching test with ease. An examination with the spectrum shows that their colour perception is less than the normal in every part, though the curve has the same general shape. The three trichromics described in my recent paper[7] on the Relation of Light Perception to Colour Perception each saw ten consecutive monochromatic patches in the spectrum instead of the 18 or 19 seen by those who see six colours in the spectrum. It is easy to show that the trichromic are dangerously colour-blind. They will mark out with my colour-perception spectrometer a patch containing greenish-yellow, yellow, and orange-yellow, and declare that it is absolutely monochromatic. When tested with coloured lights they find great difficulty with yellow and blue. Yellow is continually called red or green.

There are several other degrees of colour perception, and it may be well to say a word or two about them, though I class all above the trichromic with the normal-sighted for practical purposes, as they are not dangerously colour blind and can always in ordinary circumstances distinguish signal lights correctly. In the next stage of evolution four colours are seen in the spectrum, and the fourth colour appears at the fourth point of greatest physiological difference—namely, at the orange-yellow of the hexachromic or six-colour people. These people I have designated "tetrachromic," because they see four distinct colours in the spectrum—that is, red, yellow, green, and violet. They do not see blue as a definite colour and are continually classing blues with greens; they usually prefer to call blue purplish-green. In the next stage in evolution there appeared those who see five colours in the spectrum—red, yellow, green, blue, and violet, blue being now recognised as a definite colour; these are the pentachromic group. These people pass all the tests in general use with ease. They, however, have a definitely diminished colour perception compared with the normal or those who see six colours in the spectrum. They mark out in the spectrum only 15 monochromatic patches instead of 18. They cannot see orange as a definite colour; for instance, they can never tell whether a strontium light, which is red, or a calcium light, which is orange, is being shown them.

In the next stage of evolution orange is recognised as a definite colour, and thus we get the hexachromic or normal group, and, as we should theoretically expect, the yellow of the pentachromic is now split up into two colours—orange and yellow. The last stage of evolution which we appear to have reached are those who see seven colours in the spectrum, and the additional one is called indigo. These constitute the heptachromic group, and this seventh colour appears at the exact point which it should appear, according to my theory—namely, between the blue and violet. Persons belonging to this class have a marvellous colour perception and memory for colours. They will indicate a certain shade of colour in the spectrum, and then next day will be able to put the pointer at precisely the same point, a feat which is quite impossible to the ordinary normal-sighted person. They see a greater number of monochromatic patches in the spectrum than the hexachromic, but the curve has the same form. The marking out of the heptachromic does not appear correct to those who see six colours; for instance, the blue appears to invade the green, and the indigo does not appear a definite colour at all. If, however, we bisect the blue of the seven-colour man, and then bisect his indigo, on joining the centres we get the blue of the six-colour man, showing most definitely that the blue has been split up into two fresh colours. It will be noticed that there is room for much further evolution, and we could go on splitting up the spectrum indefinitely if only we had the power to distinguish these finer differences, but as a matter of fact, I have never met with a normal-eyed man who could see more than 29 monochromatic patches in the spectrum, and there are really millions, though by monochromatic patches I do not mean 29 separate colours. Not only are all the details of the process of the evolution of the colour-sense supported by all the facts that we can obtain from literature and museums, but the theory accounts for facts which were previously inexplicable. The distinction between light sensation and colour sensation is explained, and all facts of colour-mixing, complementary colours, and simultaneous contrast. We can understand how, as in many cases which have been recorded, a man may lose his colour perception and still have an unaltered sense of luminosity and visual acuity.

The explanation of complementary colours is a fundamental part of the theory. It is obvious that the two colours of the dichromic are only recognised as different, because they are seen in contrast to each other and that when they are mixed they neutralise each other. It is the same with the other colour sensations, when they are developed they replace the colours occupying their positions. Therefore, green which replaces the grey of the dichromic should be, and is complementary to the other two colour sensations red and violet combined. In the same way when the yellow sensation replaces the red-green of the trichromic it should be possible to compound it of both. Also, when the green sensation is in a feeble state of development it will not have the value that it has at a subsequent stage, and therefore yellow will be a much redder colour to these persons than the normal, and in a colour match of red and green forming yellow more green will be required.

Simultaneous contrast is also explained. When two colours are contrasted each appears to be a colour higher or lower, as the case may be, in the spectrum scale—that is to say, the close comparison exaggerates the difference. As the colour blind have fewer colours simultaneous contrast should be greater with them, and this I have found to be the case.

There may be some relation between the monochromatic patches and the discs in the outer segments of the cones. These are about 16 in number in the guinea-pig. As in photography, the intensity of light is a very important factor in vision. With colours of moderate intensity the periphery of the retina is found to be colour-blind, but this apparent colour blindness disappears when more intense lights are

[7] Proceedings of the Royal Society, B., vol. lxxxii., 1910, p. 458.

used. A person may have shortening of the spectrum with light of moderate intensity, but when the light is increased be able to recognise the spectrum to its normal limit. The change in steepness of gradation according to the intensity of the light is well known to photographers. The Purkinje effect, a change in maximum sensitiveness of the eye according to the intensity of the light, is, in my opinion, a photochemical effect. I find that the Purkinje effect is found for small portions of the retina if a black object has been situated in the corresponding part of the field of vision. The yellow pigment which is found in the yellow spot probably acts like the yellow screen in photography, which, by absorbing the blue and violet rays of the atmosphere, renders visible that which would otherwise be invisible. This is further borne out by the fact that hunters in India are able to hunt later in the day than usual by using spectacles glazed with golden yellow glass.

THE FACTS OF COLOUR BLINDNESS.

When we consider the path along which a visual impulse has to pass and that each cell has probably some special function in connexion with that impulse, it is not surprising that we meet with a large number of different defects of colour perception and light perception. Defects of light perception are quite distinct from defects of colour perception.

1. *Defects of light perception.*—The person having the defect is placed in a similar position to a normal-sighted person with those particular rays removed or reduced to the same intensity. Defects of light perception may be caused by absorption or by some defect in the visual purple or cerebro-retinal apparatus. The chief defect of light perception which is found is shortening of the red or the violet end of the spectrum. Let us consider the influence of a shortened spectrum upon colour vision. The first evident fact is that bodies reflecting only light, the rays of which occupy the missing portion of the spectrum, appear black.

Nearly all colours are compound—that is to say, the coloured body reflects other rays than those of the colour seen. Thus a blue-green glass may transmit the green, blue, and violet rays of the spectrum. Let us suppose that we have a substance reflecting the green, blue, and three-quarters of the violet, the colour of the body to a normal person being green. Then if we had another substance which reflected the whole of the violet it would appear blue. But with a person who could not perceive the terminal fourth of the violet the colour would look exactly the same as the green one, and as he could not distinguish between the two he would be in continual difficulty with blues and greens. All coloured objects reflecting rays occupying the missing portion appear darker than they do to the normal sighted, and are always matched with darker colours belonging to a point more internal. Thus a dichromic with a shortened red end of the spectrum matches a red with a darker green.

It will be noticed that a shortened spectrum, especially if one end only be affected, may interfere very little with the general appreciation of shade. If, for instance, we take a case in which the red end of the spectrum is shortened, so that only three-quarters of the red of the normal sighted is seen, then all bodies which equally reflect or transmit these rays can be correctly compared, because a similar portion of light has been removed from each. It is only when one colour reflects or transmits the rays occupying the shortened portion and the other does not that there is any definite interference with the appreciation of shade. Again, if neither colour reflects or transmits rays occupying the shortened portion of the spectrum, there will obviously be no interference with the appreciation of shade.

A very common mistake due to shortening of the red end of the spectrum is the confusion of pink and blue. If a person with considerable shortening of the red end of the spectrum is shown a pink which is made up of a mixture of red and violet, the red consisting of rays occupying the missing portion of the spectrum, only the violet is visible to him, and so the pink appears a violet without a trace of red. This pink is, therefore, matched with a violet or blue very much darker than itself.

Mistakes which are due to shortening of the spectrum may be remedied if we subtract the rays occupying the missing portion from the colour of confusion. For instance, if we take a blue and a pink which have been put together as identical by a person with a shortened red end of the spectrum, and look at them through a glass which is opaque to the red but transparent to the remaining rays of the spectrum, both will appear alike in hue and shade. A person with considerable shortening of the red end of the spectrum will look at a red light (which is so dazzlingly bright to a normal-sighted person as to make his eyes ache after looking at it closely for a few seconds) at a distance of a few inches, and remark that there is nothing visible, and that the whole is absolutely black. It is obvious that the light must consist only of rays occupying the missing portion of the spectrum. The same remarks which I have made for a shortened spectrum apply to cases in which there is defect of light perception through absorption or any other cause. The person having the defect is placed in a similar position to a normal-sighted person with those particular rays removed or reduced to the same intensity.

Another effect of shortening of the spectrum when it is sufficient to interfere with the difference perception which appears to be inherent in the central nervous system is that the colours appear to be moved in the direction of the unshortened portion. For instance, we find the neutral point of the dichromic with shortening of the red end of the spectrum in most cases further towards the violet end of the spectrum in comparison with a case in which the spectrum is of normal length. In the same way a trichromic with a shortened red end of the spectrum has the junction of the red and green nearer the violet end than in a case where there is no shortening.

The point that I specially wish to emphasise is that, though every case in which there is defective light perception can be explained by a defective sensibility to light of certain wave-length, not a single case of the very large number of persons that I have examined can be explained on the older theories—that is, the defect of light perception cannot be explained on the assumption that there is a defect in a light perceiving substance which is sensitive to rays of light from a considerable range of the spectrum. A large number of cases in which there is shortening of the red end of the spectrum escape detection when only the green test is used, as is usual according to Holmgren's instructions.

2. *Defects of colour perception.*—The colour blind have a diminished hue perception and see a less number of colours than the normal. All the symptoms of colour blindness are such as we should expect from want of development of the retino-cerebral apparatus for the perception for colour. This is evident even in the slighter cases which show a diminished colour perception compared with the normal. We find that the colour blind are much more dependent on the luminosity of the colour than the normal sighted; they require a stronger stimulus; they fatigue more easily with colours than the normal sighted; they have a more marked simultaneous contrast; the visual angle subtended by the coloured object requires to be larger, and they have a very bad memory for colours. The diminution of colour perception with a diminished visual angle evidently depends upon several causes. It is very marked when there is diminished light perception for those rays which are imperfectly seen. It is also dependent upon certain retinal conditions, as in scotoma and allied conditions. It will be noticed that there are cases, however, who are able to recognise colours under as small a visual angle as the normal sighted, and I have examined one dichromic (said to be red blind by a physicist) who recognised red easily through the thickest neutral glass of my lantern and who had no difficulty with this colour at a distance.

Apart from any other defect of light or colour perception, every case with which I have met has fallen naturally into one of the classes I have given—that is to say, every person is either heptachromic, hexachromic, pentachromic, tetrachromic, trichromic, dichromic, or totally colour blind. When I first gave this classification of colour blindness the facts that I discovered were so at variance with those generally stated that it was very difficult for those who were not well acquainted with the subject to compare the two sets. The general knowledge of the subject has, however, steadily increased, and the facts which I had so great a difficulty in getting recognised now form part of our common knowledge. It would be well, therefore, to describe the two main varieties of colour blindness which are of chief practical importance and to show the relation which they bear to the

writings of other persons. These two main varieties have dichromic and trichromic vision.

1. *Dichromic vision.*—The cases which come under this head form the class of the ordinary red-green blind. It is under this head that nearly every one of the recorded cases may be classed. Vision, as far as colour is concerned, is dichromic, the neutral point being situated in the green of the normal-sighted at about λ 500. All the colours on the red side tend to be confused with each other, therefore red, orange, yellow, and half of the green are seen as one colour, the remainder of the green, blue, and violet as the other. The luminosity curve in uncomplicated cases is similar to the normal. There may be shortening of the spectrum at either the red or the violet end of a varying degree. All degrees of shortening of the red end of the spectrum may be found.

Dichromics with normal luminosity curves are those which were formerly designated green-blind, but this designation is not in accordance with the facts because there is no defect of light perception in the green, and the so-called diagnostic mistakes, as, for instance, putting a bright green with a dark red, are not made. Cases of so-called red-blind are dichromics with shortening of the red end of the spectrum. I have shown that the defective perception of the red end of the spectrum will not account for the dichromic vision which is found in these cases. We may also meet with shortening of the spectrum with otherwise normal colour perception. We also meet with dichromic cases forming a series from almost total colour blindness to those bordering on the trichromic. Any theory must account for the fact that there are varying degrees of colour blindness in dichromic vision and why there is a large neutral band corresponding to the colours of the centre of the spectrum in some cases, and in others the neutral band is so small that the dichromic cannot mark it out. The two colours seen by the dichromic are red and violet, though where no distinction is seen between yellow and red, and blue and violet the brighter colour will often be selected, that is why so many dichromics say that they see yellow and blue in the spectrum. Those who have had practical experience of colour blindness will know, however, that many dichromics make no mistakes with the red test. The following will give the normal-sighted the best idea of colour blindness, and it is how the dichromic see the spectrum and explains why they are able to distinguish between colours. Let him regard the dichromic as a man who has two colours, red and violet and white. The purest red is at the red end of the spectrum; this becomes less and less saturated as the violet is approached until the neutral or white point is reached, then violet comes into the white, and this increases in saturation to the termination of the violet. The ordinary dichromic, therefore, sees green as a much whiter and less saturated colour than red.

2. *Trichromic vision.*—These persons see three distinct colours in the spectrum—red, green, and violet. They describe the region intermediate between red and green—that is to say, the orange and the yellow as red-green and blue as violet-green. It will be seen, therefore, that their chief difficulty is distinguishing yellows and blues. A yellow, for instance, which is situated next to a green will be called red, and the same yellow when adjacent to a red will be called green. There are various degrees of trichromic vision varying from those who are little better than dichromic to those who are tetrachromic. The trichromic rarely find any difficulty with their three main colours—red, green, and violet.

These cases have been described under the name of anomalous trichromatics. This name is one which has been given to those persons who in making a match between a yellow corresponding to the sodium flame and a mixture of thallium green and lithium red make a mixture which is different from that of the normal. A man who puts too much green in the mixture is called a green anomaly, whilst a man who puts too much red in the mixture is called a red anomaly. The red anomaly is only a trichromic with shortening of the red end of the spectrum, and this may be as extensive as in any case of dichromic vision. I have, however, described trichromic cases who had all the symptoms attributed to the anomalous trichromatics, but they were not anomalous trichromatics as they made an absolutely normal match.[9]

[8] Proceedings of the Royal Society, B. vol. lxxvi., 1905. Transactions of the Ophthalmological Society, 1907, p. 255.

[9] Proceedings of the Royal Society, B., vol. lxxxii., 1910.

An Address
ON
THE POSITION OF SIR CHARLES BELL AMONGST ANATOMISTS.

Delivered before the Medical Society of Middlesex Hospital on Jan. 19th, 1911,

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GENTLEMEN,—In the autumn of 1811, almost one hundred years ago, Mr. Charles Bell, aged 37, issued a little booklet for private circulation in which he expounded an "Idea of a New Anatomy of the Brain." This first account of the theory which revolutionised our conception of the master organ of the body appeared when its author was worried with the minor affairs of life. He was newly married; a few months before he had been at death's door from diphtheria; he had just moved into a house (No. 34) in Soho-square. He was having trouble with his late landlord. His last home (Speaker Onslow's old house) in Leicester-street (square) he had the misfortune to hold on a repairing lease at a rental of £96 per annum. It was this ramshackle old house which Bell selected as a basis for carrying out a frontal attack on surgical London. The surveyor he had consulted assured him it would prove a heavier burden than nine bastard children. Nevertheless, with only £12 in his pocket, he took the house, painted the door oak-colour, fixed on it a green-bronzed knocker, and "engaged a boy for £6 6s. a year, giving him a coat and hat," doubtful if he should add a silver band to the latter.[1] When the New Anatomy appeared Bell's late landlord was shouting dilapidations. His museum, his lecture-room, and his two or three house pupils were also moved to Soho-square. There was trouble about the house pupils. Mrs. Bell, as newly married ladies can well understand, wished to share the privacy of her new home with her husband. "You must consider," he wrote to his brother, who acted as Mrs. Bell's ambassador, "that these young men are *house pupils* not *boarders*. Dr. Denman, Dr. Baillie, Mr. Hunter, Abernethy, Cooper, Wilson have had them or have them. Their necessity is understood, they are admitted as being essential to a lecturer." To add to his troubles, when the "Idea of a New Anatomy of the Brain" first saw light there "was an awful pause in regard to patients." He found it necessary to "give up the character of anatomist." Think of being penalised for a priceless discovery. Bell knew Harvey's life and work well; he probably consoled himself by remembering that the discovery of the circulation led to a rapid decline in Harvey's practice.

WHAT BELL ACHIEVED.

To most medical students Charles Bell is simply known as the man who found out that the anterior root of a spinal nerve is motor in function, the posterior root, sensory. His discovery was much greater than that: he formulated a new theory of the whole central nervous system—a theory which became the basis of our present knowledge. He was the last, and with the exception of John Hunter the greatest, of that remarkable London Scottish or Hunterian school of anatomists which flourished in London from the beginning of the eighteenth until well into the nineteenth century. As an artist-anatomist this country has not produced his superior. The text-book written by John and Charles Bell was not only the best text-book of anatomy of its time, but in the opinion of many is still the most practical treatise on human anatomy yet produced in the English language. He discovered the art of making the structure of man popular with the educated

[1] The chief authorities I have relied on for the facts mentioned in this lecture are the following: "Letters of Sir Charles Bell, K.H.," selected from his correspondence with his brother, George Joseph Bell; London, 1870. "Historical Sketch of the Edinburgh Anatomical School," by Sir John Struthers; Edinburgh, 1867. "Dictionary of National Biography." "Dr. James Douglas and other Medical Biographies," by Dr. Norman Moore. "A History of the Medical Institutions of London," by the same writer, Brit. Med. Jour., 1895, June and July. "Two Great Scotsmen: the Brothers William and John Hunter," by George R. Mather, M.D.; Glasgow, 1893. "The Story of Our Museum and Some of Its Contents," by Dr. C. E. Lakin of Middlesex Hospital, Middlesex Hospital Journal, June—July, 1908.

public. He played a prominent part when medical education was passing through a critical phase in London. During the thirty-two years there, from 1804 to 1836, the hospital schools grew in importance, while the unattached schools sank gradually out of sight. He was one of those who wished to see London supplied with a teaching university, and his name is thus connected with the foundation of University College in 1827. Eight years later (1835) he took an active part in founding the medical school of Middlesex Hospital. The establishment of this school marks the end of the London Scottish school of anatomists.

BELL'S CHARACTER.

The attitudes of men to their discoveries are as variable as parents to their children. The weak bantling needs a deal of pushing and praise to commend it to the public eye. Harvey and Darwin were ideal parents; having done their best for their discoveries they set them out in the world to rise or fall by their merits, quietly glad when they met with success, and gladly quiet when treated with injustice. That was not altogether Bell's attitude to his discoveries; he knew their merits; his children were as good as Harvey's; the weaker of them he liked best and commended most. One can see from their portraits in our National Gallery that Harvey and Bell differed as widely in features and bearing as in their attitude to their discoveries. The portrait of Bell is by J. Stevens, a Scottish Academician. The picture was probably painted soon after the battle of Waterloo, when Bell was still living in Soho-square and dominant partner in the Windmill-street School, surgeon to the Middlesex Hospital, busily engaged on his brain theory, and just over 40 years of age. In the portrait the powder is combed from his hair and the tail is cut off, events which we know from his wife's letters took place in 1815. From the same source we know he was then "dressing himself young." In 1816 he wore a white waistcoat and green coat. There is more than a little of the dandy in Stevens's portrait. His clever elder brother John was also particular about his dress. A lock is curled flat on the forehead, the hair on the temples is brushed forwards and tinged with grey. The face is chubby, alert, and clean shaven; the mouth small, well formed, and shows determination; the nose has that character we now associate with Pitt and Chamberlain; the forehead is broad; the hands small, finely formed, and manifestly deft. The portrait conveys the impression of an alert man of action, confident of his merits and abilities; there are no signs in it of the patient student, and yet he was a laborious and painstaking student. Like many brilliant men, he had gifts and habits that kept up a constant civil war within him.

LONDON SCOTTISH SCHOOL OF ANATOMISTS.

Bell had more than a fair share of the merits and peculiarities of the London Scottish school of anatomists. All of them had tastes for the cultured side of life. James Douglas, the founder of the school, who settled in London in 1700 and died in 1742, collected editions of Horace; William Hunter, his direct successor, not only collected rare editions, but works of art and ancient coins; John Hunter shared these tastes; Charles Bell was an artist and critic. He insisted all through his life that artists should seek their inspiration in a study of the living nude as well as in works of ancient masters. All of them became slaves of work and of ambition; a reputation as a scientist was the common aim. Such fees as came their way were used for this. They laboured to give London a world-wide reputation as a centre of medical research. Their discoveries were the only fortunes they designed for coming generations. William Hunter felt himself grievously injured when the Government prevented him from spending his fortune in building a "noble" school of anatomy for national use. John Hunter left a rich museum, a poor family, and a legacy of discovery which the medical world has not yet exhausted. Hewson—if not a Scot, yet of this school—died a martyr to research. Cruickshank died poor. So did Home, and so did Sir Charles Bell. I wonder if any system of State endowment could produce such a school. They were doubly penalised: their researches were costly in money and in time. Their incomes were apt to decrease as their scientific reputations increased. All of them formed collections and museums—expensive necessities for venture teachers of anatomy. Charles Bell had already laid the nucleus of his before he left Edinburgh in 1804; force of circumstances compelled him to part with it in 1828. It was acquired by the Royal College of Surgeons of Edinburgh, where it is still preserved and treasured. In this collection are still to be seen the dissection which James Wilson, Bell's senior partner in the Windmill-street School, made to demonstrate the muscle (compressor urethræ) still known by his name, and the dissection made by Bell to show the internal sphincter of the bladder and the muscular band in the trigone which unites the ureter to the internal sphincter (Bell's muscle). William Hunter's museum was left to the University of Glasgow, Baillie's to the Royal College of Physicians of London, Cruickshank's collection found a home in St. Petersburgh, while John Hunter's, as all the world knows, was purchased by the Government and entrusted to the care of the Royal College of Surgeons of England. It forms the basis of the great collection belonging to that College.

Bell shared the virtues of the London Scottish school, and one rejoices to think he had a fair share of their very human vices. Without exception they were pugnacious men. While careless as to fortune they would fight to the death over a point of priority. The Edinburgh or Monro school shared both their virtues and their vices. Hence the angry quarrels within and between the schools. They were all men deeply in earnest; hence the jealousies, rivalries, and accusations of plagiarisms, and the bitter quarrels which are sure signs of scientific life. They had the unconscious art of making enemies. To peaceful men who believed the medical world and its practice had reached as near perfection as could be in a fallible world they appeared arrogant and disturbers of the medical peace. Charles Bell was bred in the Edinburgh school and spent his life in the London one, and could not be expected to be peaceably inclined. Evidently he had a temper. When he attended the British Association in 1834, then in his sixtieth year, he took an opportunity in his address to remove "a very prevailing notion of the medical men in Edinburgh that I am pugnacious and sarcastic."

We know the inner life of Charles Bell more intimately than that of any other member of the London Scottish school. During the 32 years he lived in London (1804–1836) he confided freely his hopes, his cares, his aims, successes, and foibles to his elder and helpful brother George, who had attained in Edinburgh as high a reputation as a lawyer as Charles had gained in London as a surgeon and anatomist. A selection of these letters have been published; they are most valuable documents, but a harsh critic might use them to an unfair advantage. The letters leave the distinct impression that the writer had been disappointed in his life in London—that he had scarcely been rewarded according to his deserts. Yet those who knew him intimately assure us he was a happy man and enjoyed life. He was apparently one of those men, and they are not uncommon, who is happy and optimistic in speech but sour and pessimistic in writing. The man who is gruff and repelling in conversation is often the most charming letter-writer. Oliver Goldsmith was a genius only when he held his pen. Most men have dual personalities—one of speech, another in writing. Bell did complain occasionally, but Scotsmen must not be taken too literally when they grumble. Complaint is a form of mental luxury. When London had bestowed fortune and fame on William Hunter he wrote to his early guide and friend Cullen, "You have been ill-used at Edinburgh as I have been in London." The particular ill-usage which occasioned this complaint was that the Government did not encourage him to spend his fortune in building a national school of anatomy. Bell had another mental character which distinguishes the real anatomist. His memory and understanding were visual, not auditory; he learned and understood things by seeing them; words alone were poor substitute for things. As a boy Cæsar's bridges across the Rhine appealed to him and so did their construction; the rules of syntax and their able exponent, the rector of the high school, were nightmares.

BELL'S EARLY DAYS IN LONDON.

So far I have dealt merely with the more superficial and personal aspects of Bell's life and merely outlined his place in the London Scottish school. It is time now to see if the steps can be traced whereby he made for himself a permanent name in the history of anatomy and medicine. Some years ago I inquired into the circumstances which led men to follow the profession of medicine, but amongst the hundred men I then interrogated there were none who were turned to medicine by so strange a chance as the two Bells—John and Charles. Before John

Bell was born, his father, a clergyman of the Episcopal Church of Scotland, had dedicated him to the medical profession, in gratitude for relief at the hands of a surgeon. John Bell was trained under Monro the second, and there was no man in Europe more able to introduce him to a useful study of the human body. In the Edinburgh, as in the London Scottish school, all research and study were bent towards discovering not the form but the *function* of parts. John Bell was a dapper little fellow, of extraordinary ability and personality; he was a splendid draughtsman, clever with his hands and head, clear and quick in speech, a born teacher, intensely practical, independent, and, above all, pugnacious. He set up a venture or extramural school in 1786 when he was 23, won success as a teacher and operator, and was soon at rivalry and war with the privileged authorities of the University. Charles, who was 11 years younger (he was born in 1774), had the same artistic gifts, and followed naturally in his footsteps. Monro was then deep in his researches in the nervous system; he had noted that only the posterior roots of spinal nerves were supplied with ganglia, and one may be quite sure he asked himself and his students the reason of such a distribution. Monro was puzzling over the meaning of the parts and arrangement of the nervous system.

The relationship between the elder and younger Bell is very similar to that between the elder and younger Hunter. John Bell was 11 years older than Charles. William Hunter was ten years older than John. The younger brothers served an apprenticeship in the dissecting-rooms of the elder. The elder brothers were busy teaching and publishing; the younger as busily researching. At the end of the apprentice years the brothers became gradually estranged. At the age of 23 (1797) Charles began his system of dissections and illustrations. By 1800 the quarrels between John Bell and the University had come to a climax. John abandoned the school to Charles; the younger brother had to bear the brunt of the elder brother's quarrels; his way in Edinburgh was barred. Hence the prospecting visit to London in the autumn of 1804. The journey by coach took five days; he reached London on a Sunday and found it dull. The fame of his brother and of himself had gone before him. Their books, writings, and engravings had given them a place in the medical world. Charles was 30 years of age and hoped to obtain a foothold where John Hunter had laboured and become famous. Mr. Anthony Carlisle of Westminster Hospital, six years his senior, told him bluntly they liked to "manufacture their own raw material in London"; Bell's opinion was that "Carlisle has the greatest conceit of himself I ever knew a man to possess." Carlisle's colleague, Mr. Lynn, befriended the able, independent, and ambitious Scot. Was there ever a Scotsman yet who did not meet one Carlisle and many Lynns on his first venture in that strange "cock-pit" of the world—London? In those waiting days Bell rode out with Abernethy, who knew how to cover 22 miles of road at the cost of 1½*d.* for tolls; he dined with Sir Joseph Banks and Dr. Matthew Baillie, and enjoyed gentle flirtations in the agreeable society of Sir William Blizard's daughters. A year passed and nothing came to him, and hence the venture already mentioned of taking Speaker Onslow's old house in Leicester-square with £12 in his pocket and a weekly expenditure that would see his fortune dissipated in a fortnight. An onlooker would scarcely expect that Bell's course was leading towards the discovery of a new anatomy of the brain.

Then comes the opening lecture in the old house at the beginning of January, 1806; it was a wet night and 40 came to hear him, but only 12 enrolled themselves as pupils—bringing him a sum of £82. It was then as it is now: students as a rule do not pay fees to learn the new and the strange; they wish to have clearly set before them the plain and orthodox facts which are needed by them in examinations and practice. Bell was intensely disappointed; he dreamt of hundreds, and not even tens came. The manuscript of the "Anatomy of Expression" which he brought down from Scotland with him was finished in the meantime and published. He was "deeply mortified" when Mrs. Sydney Smith suggested it would be better to have someone to remove the Scotticisms. However, the book succeeded, and it deserved its success; it is the first and greatest of any work on anatomy for artists that has seen the light of day in this country.

WORK ON THE ANATOMY OF THE CENTRAL NERVOUS SYSTEM.

A study of how the emotions are expressed in man led him towards the brain. No explanation could then be given of the division of this organ into lobes, nor was any particular functional meaning attached to the cerebellum. The cranial nerves were complicated in their distribution and course, and the spinal nerves had two roots just because they had been created so. On the theory of the brain then taught, a single nerve should have been sufficient for each part; one kind of nerve was enough for all kinds of sensations and impulses; the nerve path which served to bring a message to the brain also sufficed to take one away again. Bell was a close student of John Hunter's works; Hunter was his ideal; he must have known that Hunter had discovered the double nerve-supply of the olfactory mucous membrane, and that he explained the fact by supposing the first nerve was only for the sense of smell and the fifth for ordinary sensation. Hunter suggested that there were different kinds of nerves—those of the eye, the nose, and of the ear were for the transmission of special forms of sensation, and those like the fifth for ordinary sensation. This much at least is clear: the starting point of Bell's discovery was the recognition that the optic nerve transmitted only impressions connected with sight, the olfactory only with smell, the auditory only with hearing, the gustatory only with taste. There were therefore different kinds of nerves; all nerves were not functionally alike. Another of Hunter's observations may have influenced him. When a joint is flexed it was Hunter's opinion that the extensor or elongating muscles were as directly under the control of the nervous system as the flexor or contracting muscles. Bell went a step further; from his own sensations he was convinced that the muscles must be as freely supplied with nerves of sensation as with nerves of motion—a conception which Sherrington has elaborated and extended with unrivalled skill. In Bell's opinion our muscular actions were controlled from beginning to end on the impressions carried to the brain by the sensory nerves which supplied them. He could not conceive that one nerve could carry messages to and from the brain simultaneously; there must be two paths. The problem of the two roots came back to him: was it possible one was for sensation and one for motion? The nerves from the organs of sense, which he knew to be purely sensory, ended in the dorsal or posterior columns of the nerve axis; when he followed up the anterior roots he traced them in the anterior columns of the cord to the pyramidal tracts, crusta, and cerebrum; the posterior roots he found went by the posterior columns to the cerebellum. Therefore the brain and the anterior or ventral parts of the nerve axis were connected with motion; the cerebellum and the dorsal parts of the cord and medulla were connected with sensation. That was the theory he set out to prove in 1807—the second year of his venture lectures in Speaker Onslow's old house.

In 1808 he had exhausted the anatomical evidence and tested the truth of his inference, drawn from anatomical evidence, by physiological experiment. The experiments were confirmatory, but in his opinion not altogether decisive. To reach the spinal roots and cord entailed a considerable injury to the parts operated on. If his theory were true, he inferred that it should also be applicable to the cranial nerves. There the nerves were more superficial, and it was possible to select examples in which the sensory and motor roots were not conjoined. He selected the seventh as a type of the anterior or motor nerve, divided it, and found the facial muscles were paralysed; he exposed the fifth (he did not then know of its motor root), divided some of its branches, and found common sensation was lost. Until these experiments were made the facial and fifth nerves were supposed to fulfil the common purpose of nerves. Up to Bell's time the only explanation offered for the double nerve-supply of the face was one supported by his old teacher Monro—that the fifth might still act if the facial nerve was accidentally injured or *vice versâ*. The discovery of the cause of facial palsy was a side issue; the importance of the experiment to Bell was that it demonstrated the truth of his theory from one end of the central nerve axis to the other. The ventral part was motor, the dorsal sensory.

Bell's second discovery—the recognition of a respiratory system of nerves—came about in the following way.

About 1813, the year after he joined Wilson in the Windmill-street school, he made a dissection of that complex of nerves which may be exposed between the mandible above and the thorax below. He had to demonstrate them to his class next day. What explanation could he give that would account for the intricate manner in which the cranial and cervical nerves were arranged and distributed in this region? Many of these nerves—the ninth, tenth, and eleventh—did not arise either in the line of his sensory or motor roots, but intermediate to them. Why was that? He had to go to a case in the country, and on the way he discovered what he believed to be the explanation. The chief nerve of the group went to the lungs; it was functionally therefore a respiratory nerve. The other nerves arising in line with it—the sixth, ninth, and eleventh—must also be respiratory. The muscles of the face were, in his opinion, mainly respiratory in function; the sterno-mastoid supplied by the eleventh could be used in inspiration. He was dominated by the idea that the origin of nerves must be determined entirely by function. The mechanism of respiration, he believed, had been added to the more primary actions of the body and the system of nerves which regulated it must have been interpolated in the motor and sensory systems. He supposed that an intermediate system must be represented in the cord to influence and control the respiratory action of the body wall muscles. The phrenic (internal respiratory nerve) and long thoracic (external respiratory nerve) he also supposed to belong to this system. Bell was particularly fond of his "respiratory" theory. It was the first attempt ever made to explain a certain series of complicated facts. He saw that nerves having an intermediate root origin must be different in nature from the nerves rising in the dorsal and ventral series. We had to wait 60 years before a more satisfactory explanation was given of the nerves which have an intermediate root origin. It came with the demonstration of the splanchnic system by Gaskell. But who can yet explain why the sensory system is dorsal, the ventral motor, and the intermediate splanchnic?

COMPARISON OF DISCOVERIES OF HARVEY AND BELL.

There is a remarkable similarity between the discoveries of Harvey and of Bell. Monro, as we have seen, was puzzling over the meaning of spinal ganglia when Bell was a student in Edinburgh at the end of the eighteenth century. Fabricius was trying to explain the meaning and use of valves in the veins when Harvey was studying in Padua at the end of the sixteenth century. They were designed, Fabricius thought, to secure an even distribution of the blood during its reflux from the thorax to the extreme parts of the body. Harvey and Bell came to London to observe, reflect, and experiment, and teach and practise for a livelihood. Harvey brooded over his "new" idea from 1616 to 1628 before publishing; Bell over his from 1807 to 1821. Harvey found the arrangement of valves could not be explained on the current teaching of the day. They allowed blood to pass only in one direction, and that was towards the thorax. The current teaching could offer no explanation of why the lungs required a special ventricle and an artery as big as that to the whole body for their special blood-supply. No explanation was offered for the existence of the tricuspid valve, nor for the semilunar and mitral valves. Harvey was the first anatomist to formulate as a working principle for the investigator that the existence and form of every organ and part of the animal body is determined by function, and that by a study of form a key or guide may be obtained which will direct the inquirer as to the manner in which the function may be experimentally demonstrated. A rational study of anatomy guided Harvey and Bell to their discoveries.

On whatever standard one proceeds to judge, Charles Bell must be assigned a first place amongst the world's anatomists. He did for the anatomy of the nervous system what Harvey did for the circulatory system—brought order out of chaos. John Hunter was probably a greater discoverer than either, but he was an anatomist of life rather than of the human body. Harvey proved his thesis in every point; his demonstration was complete. His inclinations were under the sole guidance of his facts. Bell, as we have seen, sometimes allowed the facts to follow his inclinations. In Bell's favour we must take into consideration he was dealing with the most complex and elusive system of the body, one which can be interrogated with success only by the more delicate modern means which Bell had not at his command.

In conclusion, I cannot do better than quote to you a footnote from Sir Charles Bell's treatise on the "Nervous System of the Human Body": "In your department," Sir Humphry Davy said to him, "you can hope for nothing new. After so many men in a succession of ages have laboured on your subject, no further discovery can be expected." "This," writes Bell, "shows great ignorance of anatomy since every improvement points to something new, and the higher we go the more is the field of view extended" Once a new path is found there is no telling the various discoveries it may lead to. The path discovered by Charles Bell is one which has carried his successors into new and wide fields. Nor are the methods which Harvey and Bell employed to elucidate the human body exhausted; those who know the structure of man best know how obscure are many parts and organs of the human body, and how indifferently they can be explained on the basis of our current teaching.

THE TREATMENT OF EXTENSIVE CARIES IN CHILDREN BY EXTRACTION.

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FOR several years it has been my practice to treat extensive caries in children by extraction. The principal criticisms brought against this method of treatment have been: (1) that the loss of mastication area interferes with the growth of the child; and (2) that the effect on the permanent series is to cause irregular eruption and crowding of the teeth. I propose to show that these criticisms are not altogether supported by facts, and that the effect of the removal of the teeth on the general health of the child is beneficial rather than harmful; still further, that the harm accruing to the permanent series is slight and well outweighed by the gain to general health

The treatment, briefly stated, consists in the removal of all functionless deciduous and permanent teeth. To consider the question more in detail. If the first permanent molars are in position the best treatment seems to be the removal of all the deciduous molars. I do not hesitate to remove sound molars if their antagonists have been removed. For example, suppose the right maxillary deciduous molars and the left mandibular molars are unsavable, and their removal is called for, then the remaining teeth—namely, the right mandibular and the left maxillary molars—are rendered functionless and can serve but little good purpose; indeed, they will harbour food, and so prevent the mouth being kept naturally clean. It is urged that such treatment robs the child of masticating power, but such teeth are useless as far as the function of mastication goes; indeed, they render the first permanent molars functionless, because a child with tender teeth "bolts" food and cannot chew.

In cases where at, say, the age of 8 years the first permanent molars are carious and have exposed pulps or septic pulps, these teeth are removed in addition to the deciduous molars, the child being left with only the permanent incisors and the deciduous canines. The improved condition of the child following this rather drastic treatment can best be shown by detailed reference to a few cases.

CASE 1.—A female patient, aged 4 years and 6 months, when first seen was suffering from gastro-intestinal trouble.

Teeth removed[1]: $\frac{d\ c\ b\ a}{e\ d}\ \Big|\ \frac{a\ b\ c\ d}{d\ e}$

In this case the $e\,|\,e$ were not carious and are being retained until the $\overline{6}\,|\,\overline{6}$ erupt, when they will be removed. This patient has lost her gastro-intestinal trouble, and between June 8th and Oct 2nd she increased in weight from 2 st. 4 lb. to 2 st. 8 lb. The normal weight should have been about 2 st. 8 lb. and the normal increase in four months about 1½ lb. This patient, however, increased 4 lb.

[1] The notation used is that usually adopted in dental literature. The letters and figures above the line indicate the upper teeth, those below the line the lower teeth. The figures on the right hand denote the left teeth, and those on the left hand the right teeth. The numerals are used for the permanent teeth, and the letters for the deciduous teeth. The teeth are counted from the middle line. Example: $\overline{6}$ indicates the left maxillary first molar; $\overline{e}$ the right lower second deciduous molar.

CASE 2.—The patient, a male, aged 7 years and 4 months, was stated always to have had indigestion.

Teeth removed: $\frac{6\,e\,d\,c}{6\,e\,d\,c} \,|\, \frac{c\,d\,e\,6}{c\,d\,e\,6}$

The teeth were removed on Dec. 6th, 1909, the patient weighing 3 st. 2½ lb. On Feb. 7th, 1910, the patient had increased to 3 st. 5 lb., and all symptoms of gastro-intestinal disturbance had ceased. The average weight of this boy should have been about 3 st. 9½ lb. and the increase in two months a little under 1 lb. The weight, however, increased in two months 2½ lb.

CASE 3.—The patient, a male, aged 6 years and 7 months, complained of constant feverish attacks.

Teeth removed: $\frac{e\,d\,b\,a}{e\,d} \,|\, \frac{a\,b\,d\,e}{d\,e}$

Between December, 1909, and Oct. 23rd, 1910, the weight had increased from 3 st. 5 lb. to 3 st. 10 lb. The feverish attacks had ceased and the child now slept and ate well. This patient was of about average weight, and the increase in weight was about normal.

The rapid increase in weight following the extraction is at times very marked. For example, in a boy, aged 10 years and 2 months, who was suffering from "glands," it was found advisable to remove: $\frac{e\,d\,c}{e\;\;c} \,|\, \frac{c\,d\,e}{c\,d\,e}$. Between June and October this boy increased in weight from 4 st. 6 lb. to 4 st. 11 lb. The normal weight should have been about 4 st. 11½ lb., and the average increase in four months about 2 lb. This child in this period increased 5 lb.

CASE 4.—The patient, a boy aged 6 years and 6 months, when seen on Nov. 28th, 1910, was found to be suffering from "glands," gastro-intestinal sepsis, and general ill-health. He weighed 2 st. 12 lb. The first permanent molars were partially erupted. The following teeth were removed: $\frac{d\;\;b\,a}{e\,d\;\;b\,a} \,|\, \frac{a\,b\;\;d}{a\,b\;\;d\,e}$. The $\frac{e}{e}$ were carious but the pulps were not involved and they are being retained until the $\frac{6}{6}$ are fully erupted. This patient was seen on Jan. 16th last, when he weighed 3 st. 3½ lb., and therefore showed a gain of 5½ lb. in about seven weeks. His mother stated that his appetite showed marked improvement. The glands were considerably smaller. The increase in weight is, however, not always shown; in a few cases there is a slight decline, but this is, I find, frequently traceable to the presence of sepsis in some other parts—for example, the tonsils or the naso-pharynx.

To show how the effect of tender teeth will affect the child the following case is of interest because the mother had kept a regular record of the child's weights.

CASE 5.—This child from birth had increased progressively in weight until September, 1909, the weight at that time being 24 lb., and the age of the child 3 years. The mouth then began to get tender, and in February, 1910, the child had lost 1½ lb. The deciduous molars were removed and attempts were made by local treatment to conserve the incisors. Within one month this child had increased to 24¾ lb. By Sept. 3rd the weight was 27½ lb. The incisors now began to give trouble, and the child when seen on Oct. 6th weighed 25¾ lb. These teeth were removed with the following results: Oct. 6th, 25¾ lb.; 15th, 26¼ lb.; and 29th, 26⅞ lb.

One further case may be given because it emphasises the point that when the increase in weight does not follow the removal of the teeth there may be other sources of sepsis present.

CASE 6.—The patient, a female, aged 7 years and 6 months, when seen on Feb. 23rd, was suffering from defective teeth, tonsils, and adenoids. The following teeth were removed: $\frac{6\,e\,d\,c}{6\,e\,d} \,|\, \frac{c\,d\,e\,6}{d\,e\,6}$. The following records of the child's weight were taken:—

	st.	lb.	oz.		st.	lb.	oz.
Feb. 23rd	3	10	8	May 25th	3	9	12
March 24th	3	9	12	July 26th	3	10	12
May 3rd*		—		Oct. 15th	4	0	6

* Tonsils and adenoids removed.

In this case the improvement in weight and general health did not follow until the complete removal of the sources of sepsis.

The cases quoted are sufficient evidence that the loss of masticating power does not interfere with the general health of the child, but increases the power of metabolism by removing a source of sepsis. Having shown that a marked improvement in the general health follows the treatment of free removal of the teeth, it will now be necessary to deal with the influence of the treatment on the growth of the jaws and the eruption of the teeth. It has been urged that the removal of the deciduous molars allows the first permanent molars to come forward and so cause in the future crowding of the anterior teeth. With regard to this, I would point out that such travelling forward of the permanent teeth occurs mainly in mouths where the growth of jaws is interfered with by want of function, either due to insufficient mastication or lack of nasal breathing. From observation—but I express myself guardedly in this respect—I am inclined to think that if, by removing the deciduous molars, you can render the first molars functional, the growth of the jaw will be stimulated and room made for the development of the second and third molars, with no forward pressure from these teeth, and, with the first molars occluding correctly, there will be little, if any, forward movement.

A somewhat extended experience of these cases seems to show that the first molars move forward but little, if at all, in children who have been free from adenoids, and in whom at the time of removal the first permanent molars are in correct occlusion, and the teeth are in their normal vertical direction. On the other hand, in children who in their early years have suffered from adenoids, the first molars do move forward, but in these cases the forward movement always occurs, although perhaps it is less marked, directly the second deciduous molars are lost in the natural way. But granting that the treatment of extraction suggested does cause a moving forward and subsequent crowding, the removal of four teeth will easily alleviate the condition. One has to weigh in the balance the loss of four teeth against the constant presence of oral sepsis and all its sequelæ. In my opinion the former far outweighs the latter. Take as an example the following case.

CASE 7.—The patient, aged 8 years, was suffering from general ill-health and chorea. The deciduous molars were removed, and with the eruption of the premolars the teeth presented a slightly crowded condition. The second premolars were removed and the child has now a good regular arch and an excellent occlusion.

In this case there is no proof that a crowded arrangement of the teeth would have been avoided by the retention of the deciduous molars, but even granting that it would have been, which was the better line of treatment—a septic mouth for four years, with the possible chance of preventing crowding, or a clean mouth for four years and the risk of crowding, which can be easily remedied?

The drastic removal of teeth does not lead in the majority of cases to any marked irregularity on the eruption of the permanent teeth. Indeed, it is surprising what excellent arches are eventually met with in these children. In cases where the majority of the deciduous teeth have been removed before the age of six years the permanent incisors erupt in a regular arch, and one rarely finds any "spreading." Again, in cases where the first permanent molars and the deciduous molars have been removed, perhaps before the age of nine years, an excellent occlusion will usually follow. In a few cases the happy results just referred to do not always follow, but in these the trouble is often traceable to asymmetrical extraction.

A word now in reference to the treatment of cases where the teeth are decaying on all surfaces, such as occurs from the sucking of sugar-bags, or the constant presence of an easily fermentable carbohydrate on the surface of the teeth. Providing the pulps of the teeth are living, we can hope to arrest the caries by placing the teeth under a proper environment. It is a *sine quâ non* of the treatment that mouth-breathing, if it is present, should be cured. Careful regulation of the diet and cleansing of the teeth, combined with local treatment, will sometimes work wonders. For the latter purpose no drug acts better than nitrate of silver, and this should be applied to all the carious surfaces of the teeth at least once a week until the dentine shows signs of hardening. The arrest of the condition can also be applied by the regular use by the parents of spirits of wine and an alkali.

X BODIES IN HUMAN BLOOD.

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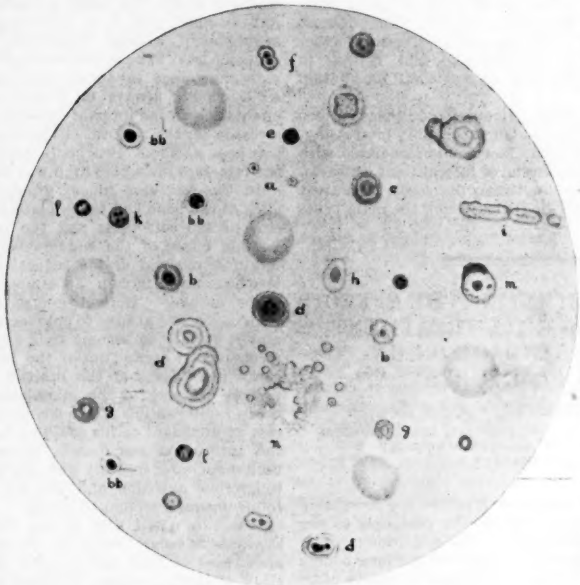
As noted in the first Review Supplement of our laboratories, these curious bodies had once been noted in the blood of a sick dog in Khartoum. On Nov. 23rd, 1910, I received the following report, accompanied by the blood films mentioned, from Dr. Nicola Mâloüf, of the Sudan Medical Department, one of the medical officers in Omdurman, who, when in Khartoum, had been diligent in his attendance at the laboratories:—

"I am sending you four slides of blood from a patient under my care who is suffering from a very interesting disease, which I might call urticaria nocturna. The disease is of four months' standing; it appeared at Kamlin. The patient is a white lady about 18 years old, married, and is nursing a child 1 year old; the child is very healthy. The case presents the following symptoms. Every evening about 7 P.M. flat, solid, more or less elevated wheals, irregular in size and shape, begin to appear all over the body. These wheals disappear and others appear till the early morning, when the eruption begins to diminish, and about sunrise nothing is left and the patient looks normal like any other person. The eruption is accompanied by a severe itching and burning sensation; there is no fever and no disturbance of any of the systems of the body. The lady has lived in Kamlin for the last two years. The slides are not fixed. Will you kindly examine them for anything you might think as a cause? If more slides are required, or any other information is necessary, I will be very glad to help."

Inquiry elicited the fact that at no time had there been any fever.

In one of the films I found typical X bodies in considerable numbers, free and occasionally lying on the red cells. A fairly common form was the small body (see Figure, *a*), which Horrocks and Howell[1] describe as being about one-eighth the size of a red corpuscle, spherical in form, and consisting of a faint capsule with a circular centre staining deep blue. The majority, however, had centres more of a pale lilac than a blue colour, and contained faintly staining material between their capsules and their centres (*b*). What may be called large and intermediate forms (*bb*) of a similar type were present, but in the former the capsule was not so defined, the appearance being rather that of a halo of more faintly staining substance surrounding a deeply stained spherical core (*o*). Very few forms with concentric ring (*d*) were observed; and only one or two of the large "solid" coccus-like type (*e*) shown in the drawing "A" which so well illustrates the paper by Horrocks and Howell. One did not see the type with an indented centre, crescent-shaped, and enclosing a small circular body, of which they speak, but the forms apparently in process of division were present (*f*). I am not sure that these, especially when occurring in groups of threes, do not really represent fused forms. Bodies which may be described as fragmented were encountered. Some of these have only a chip, as it were, broken from them, or look like biscuits from which one has bitten out a piece (*g*). Distinctly oval forms were seen, usually of considerable size (*h*), and also a curious oblong appearance which it is difficult to describe, but which is well shown in (*i*). There can be no doubt these forms consist of the same substance as the bodies. For convenience I will call them the oblong forms. Again, small forms measuring 3 μ in diameter were met with, one of which showed a segmentation of the central spot into four (*k*); another no dark centre, but dark spots at its periphery (*l*); and yet another a kind of inner capsule. Many of the smallest forms were homogeneous, showing no dark centres whatever, while some of the larger forms, with distinct cores, showed granular material between their capsules and their centres. In this there were sometimes small blue spots or granules. Others, again, were irregular in shape, being what may be called "knobbed" bodies (*m*).

Like Horrocks and Howell, I found no trace of chromatin in these bodies; but I noticed that, lying free, there was a considerable amount of amorphous-looking material which took on a pale lilac stain like some of the smaller bodies. This was more plentiful in that part of the film where the bodies occurred, for I did not find them equally distributed throughout, and I could not help thinking that there was some connexion between the bodies and this material—i.e., that they might represent portions of it which, owing to the action of the circulating blood, had assumed a spherical shape just as do fragments of macrophages. Still, it was difficult to account for the concentric rings on this hypothesis, and altogether I found it impossible to come to any conclusion regarding them. At the same time further study convinced me that the smaller homogeneous bodies at least, whose staining reactions and definite form readily distinguished them from blood plates, are in reality derived from the irregular amorphous masses. One can, as it were, see them budding and breaking off from the latter, which themselves are very curious and interesting, containing, as they often do, an irregular central cavity, and being furnished with edges which resemble the outline of a very rugged and indented sea coast (*n*).



Illustrating X bodies in the blood. × 1000.

The following are the measurements of the various forms of bodies found:—Spherical: These ranged from 0·7 μ to 5·25 μ in diameter; 1·5 μ was common, and 2·25 μ even more so, the majority being of this dimension. 3 μ and 3·3 μ were, however, not at all rare. Fused or dividing forms frequently measured 3 μ each. This was also the size of some small "solid" coccus-like forms, four of which were found lying close together. One so-called oblong form measured 6·75 μ in length by 3 μ in breadth; and another, which lay end-to-end with it, 4·5 μ by 3 μ.

It will be seen, then, that the bodies are pleomorphic, although quite distinct from all the blood elements and readily recognisable as specific entities. As I only found them in one film out of the four sent, it occurred to me that their habitat might not be the blood but the skin, from which they may have been washed out by the first drop of blood. I had no means of telling which was the first film taken, but I noted that Horrocks and Howell on several occasions found

[1] Horrocks, W. H., and Howell, H. A. L. (April, 1908): X Bodies found in the Blood of Human Beings and Animals, Journal of the Royal Army Medical Corps, vol. x., No. 4.

the bodies in one slide out of several examined. On the other hand, this was by no means their invariable experience, while they once recovered the bodies from broth into which a piece of the liver of an ox or cow had been placed. This would appear effectually to dispose of the idea that they are derived from any part of the skin, unless some contamination had occurred.[2] The same remark applies to their successful inoculations of rabbits.

I asked Dr. Mâloüf to send me some more blood films, and he forwarded ten, all unfortunately taken from one of the urticarial wheals and numbered in the order in which they had been taken. In none of them were X bodies found. The previous blood films had been made from finger blood. I now sent Dr. Mâloüf two tubes of Nicolle's blood agar and several tubes containing the 1 per cent. sodium citrate solution employed by Horrocks and Howell, and requested him to inoculate these tubes with appropriate quantities of blood taken from the finger as at first. This he kindly did, and I incubated the inoculated media at or about 22° C. The tubes were examined daily for five days, care being taken to secure the blood sediment from the citrate tubes. Unfortunately coccal or bacterial contamination, apparently of cutaneous origin, eventually made its appearance in every one of the tubes, and at no time were any X bodies found. I tried hard to get the patient to visit the laboratories, but in vain; and before Dr. Mâloüf could obtain other films or make other blood cultures she left for Kamlin on the Blue Nile. Hence, much to my regret, I was unable to pursue the case further or to confirm the findings of Horrocks and Howell in culture media, or to repeat and extend their inoculation experiments.

Although one cannot express any opinion on these curious bodies their occurrence in the Sudan is certainly interesting, as is the fact that they were found in a case unassociated with fever, but suffering from a recurrent or intermittent urticaria.

I am indebted to Mr. George Buchanan, our senior laboratory assistant, for the careful drawing illustrating the main types present.

Khartoum.

SOME CASES ILLUSTRATING THE EFFECTS OF THE HYPERÆMIA TREATMENT BY ELASTIC BANDAGE ON UNUNITED FRACTURES.

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TROUBLESOME cases of ununited fracture are constantly occurring in surgical practice and tax our resources to the utmost in bringing about their repair. The condition appears to be met with after any kind of fracture of the long bones, from the most simple and limited to the most extensive comminuted and compound varieties. The various causes are fairly well recognised now and need not be alluded to, the object of this communication being merely to report cases in which a very simple method of treatment was followed by the best results where other more serious measures had failed. The treatment is not new, but though it has been in favour with some for many years it does not appear to have as yet gained for itself that place in ordinary surgical procedure to which it is entitled.

The method of inducing union in ununited fractures by engorging the parts around by bandaging above and below the lesion appears to have been first proposed and practised by Mr. Thomas of Liverpool many years ago. This is pointed out by Bier in his valuable treatise on the uses of artificial hyperæmia in surgery, which has done so much to enlarge our views on the processes of repair in many ailments. But so far the practical use of hyperæmia, as applied to ununited fractures, does not appear to have become general, as remarked above.

When a simple, say transverse, fracture of the tibia (e.g., Case 2), put up and maintained in perfect position, is found at the end of six or eight weeks quite ununited, several other facts about the limb may usually be noticed as well. It is, of course, flabby, and more or less wasted from disuse; it is colder than its fellow, and, as a rule, the skin is paler. The necessity for complete immobilisation is the cause, and prevents us from employing massage or any of the usual means for keeping up the normal nutrition of the limb. This may, of course, in exceptional cases, have been further impaired by needlessly firm bandaging. But apart from this mere disuse produces a greater or less amount of anæmia in the injured area, although at the first there is a certain degree of traumatic hyperæmia, the first step in the process of repair.

It seems, therefore, quite a common-sense measure to create by mechanical means an increased flow of blood through the part. This was often done in earlier days by forcibly rubbing the bones together and so reproducing a traumatic hyperæmia. But the objections to this were obvious, the chief one being the difficulty of replacing the bones in good position. The use of the elastic bandage is now found to be equally efficacious or more so. In the cases below it was applied lightly over the limb below to within a couple of inches of the fracture and more firmly above downwards to within the same distance of the lesion. The only difficulty met with is in producing the necessary amount of engorgement without interfering with circulation in the deeper parts. The upper bandage had often to be readjusted more than once to obtain the blue-pink flush *without* pain, which should always be present. Any pain or absence of circulation in the interval between the bandages was always a reason for the removal of the upper one. The engorgement was kept up about two hours morning and evening, and in the intervals the whole limb was wrapped up in warm wool.

In the last case in our group, in which necrosis of the ends of the bone had taken place as the result of the laceration of the soft parts and the periosteum by the injury, another effect of the engorgement was in play. The sinus left after removal of the sequestra was presumably more or less infected, although the temperature for weeks had been quite normal. Here the first effect of the constriction hyperæmia was always to produce an increased flow of serum, and it is fair to assume that any organisms present were mechanically carried out of the sinus. But besides this, the germicidal effects of the healthy serum resulted soon in a perfect cleaning of the granulating track. The net result was a rapid healing of the whole wound. The gradual formation of abundant callus could be followed by skiagrams after this until union was sound. Since then active exercise has been encouraged in every way, and the limb has been massaged to improve nutrition and get rid of the stiffness naturally following such prolonged disuse.

It will be noted that in the first case recorded here two attempts to secure union by wiring had failed, and though abundance of time had elapsed after the last operation to allow of the formations of callus no repair had taken place. It was only when the hyperæmia had been kept up for some time that this result was obtained and union became solid.

The last case was a particularly serious one. For it was the patient's right arm, and a second wiring was not considered desirable in view of a state of ulceration, necrosis, and sinus remaining after the original injury. The removal of the sequestra besides left a gap between the bones and a granulating cavity. In this case all that was done was to place a thick rod of aluminium within the medullary cavity of both ends so as to keep them in a straight line. The two pieces were pushed together over this and nothing further was done to hold them together. A small gauze drain was inserted down to the line of fracture and the wound was partially closed. What remained healed with remarkable rapidity under the increased hyperæmia induced by the bandage and our radiograms showed how quickly callus began to form after this. It may be suggested that all this would have taken place without the bandage. Perhaps it might. But the fact remains that no trace of repair of the bone could be made out until the hyperæmia had been in full swing for 10 for 12 days, when our patience was nearly exhausted. Moreover, the same result was obtained in the two practically simple fractures, Cases 2 and 3, which had failed to unite under conditions which

[2] Mr. George Buchanan, however, drew my attention to the fact that some of the forms were present on the slide beyond what one may call the "commencement end" of the blood film. This rather suggests that they may have been derived from the surface of the skin, especially as, in all probability, the slide was pressed down upon the finger in order to take up the drop, and not merely allowed to come in contact with the latter.

were more than usually favourable. The bandage was applied when surgeon and patient were beginning to lose heart: the effect was rapid union.

CASE 1.—The patient, a man, aged 37 years, was admitted on Nov. 4th, 1905, for a compound comminuted fracture of the right humerus at the junction of the lower and middle third with a subcoracoid dislocation. There was a wound on the inner side of the arm from which much blood was oozing. The main line of fracture ran from above downwards, forwards, and outwards. Another plane of fracture ran downwards and inwards, cutting the other plane at about its upper third and separating a triangular fragment from the shaft. The lower pointed end of this separate piece was broken off by a third line of fracture. Under chloroform the dislocation was easily reduced and the rather pointed ends of the main fragments were wired together and some small fragments and débris removed. The incision which had been made through the fracture wound was partly stitched up and the rest drained with aseptic gauze. The first couple of days a large quantity of clear brownish discharge came away followed by a fall of temperature, which had been high. After this the wound steadily closed and he left hospital nearly healed, the arm being still in splints. Healing was complete at the end of December.

On March 5th, 1906, he was readmitted looking well and wound soundly healed. But the fracture was ununited, and a radiogram showed much displacement and that the triangular fragment mentioned in the first notes had slipped in between the end of the upper and lower main portions of the humerus.

On March 8th I opened up the old scar, removed the wire and the intervening loose but still living triangular fragment, and "scarfed" the ends of the main upper and lower bones, and united them with two wires in good position. The wound did very well and the patient went home on March 31st.

On Oct. 24th the patient was readmitted, and it was thought that the union was sound. It was also found that the head of the humerus had again slipped out and lay under the coracoid. During some attempts to reduce the dislocation, which failed owing to firm adhesions, the fracture was found to be ununited. The head of the bone was resected and the arm put up straight. This wound healed quite satisfactorily, but the fracture did not unite for some months. The Bier's bandage was then applied when he came up daily during a holiday which I had, and on my return I found it firmly united.

CASE 2.—A man, aged 56 years, was sent to me a year ago for transverse fracture of the tibia. This had occurred in the hunting field from the kick of a neighbour's horse and was compound. He had been admirably dressed and the limb put up in splints by Dr. H. Fraser of Harpenden. I had little to do but to cleanse the wound, cover it with boric lint, and put the leg in side splints. The wound healed without reaction and the splints were, at the end of eight weeks, put into a Croft's plaster apparatus. Union had not taken place when the patient went to Brighton. I requested the surgeon under whose care I placed him to remove the Croft in a week or two and report progress. This he did and told me there was no union. I then asked him to use Bier's bandage and report further. This he did a few weeks later, informing me that the tibia was firmly healed.

CASE 3.—The patient, a man, aged 44 years, was admitted for transverse fracture of the left humerus a little above the middle, which was ununited. He had sustained the fracture three and a half months before from a fall on the shoulder. The arm was in splints until a week before he came in and was then found, after passive movement, to be ununited. The ends of the bone were found to be in good position, but there was very little surrounding callus. On the next day I applied Bier's bandage above and below the fracture for about one hour each day and later for one and a half hours twice a day. On April 10th the note is that "union seems to have taken place." The hyperæmia was continued as before. On April 29th the union was quite sound and the patient went home.

CASE 4.—A young man, aged 21 years, fell from his bicycle in Suffolk on July 24th, 1910, and sustained a bad transverse fracture of the right humerus with much laceration of periosteum and soft parts, and with extensive subcutaneous and intramuscular bleeding. He was put up with an aseptic dressing and splint and sent up the next day to University College Hospital. Position was good, but it was doubtful whether asepsis had been secured. There was an open wound on the front and inner side of the middle of the arm, which, after the usual cleansing and painting with tincture of iodine, was enlarged. Much laceration and blood clot were found and a transverse fracture. This was wired firmly in excellent position and the wound was closed. It was necessary to let go a couple of stitches a few days later as there was a considerable amount of altered blood clot and turbid serous effusion and rise of temperature. After this the temperature fell to normal and remained so until the end of the case. The wound, however, continued to secrete and the bone failed to unite. When I returned from my summer holiday it was still without callus and there was a small sinus. A radiogram showed that a small portion of both ends had necrosed. The wound was now opened up on Sept. 29th, 1910, sufficiently to remove the sequestra and the loosened wire. A rod of aluminium was then placed between the two ends in the medullary cavity to keep the fragments in line, but they were not further secured by wire, being simply forced together over the metal rod. At the end of ten days, when the stitches had been removed, the elastic bandage was applied for two hours morning and evening. The first effect was to increase the flow of serum from the sinus and to help to its rapid closure. Soon after the bones began to knit and a skiagram showed the formation of callus. Union was soon firm and the patient is now exercising his arm and is having massage to remove the stiffness and muscular atrophy following disuse. The radiograms now show a fair amount of callus which is on the increase; also that the aluminium rod has gravitated downwards somewhat, and, what I cannot explain, has escaped from the medullary cavity of the lower fragment.

To sum up, it may be accepted as fairly certain that, excepting the interposition of fragments of detached bone, of muscles or tendons, or of stripping of periosteum, the chief cause of delayed or completely arrested union of fractured bones is lack of proper circulation in the area injured. This may be due to rupture of the arteries supplying the bones, to over-tight bandages when the splints are applied, or, above all, to disuse. If the vascular supply is damaged it is plain that we cannot repair the condition. But we can further impair the proper blood-supply by improper bandaging. This is avoidable. As to disuse, as long as the fracture is insecure it is difficult to make any use of the muscles of the limb. If we could it is probable that such fractures would rarely fail to unite. We know that broken ribs, which are always in a state of movement, hardly ever remain ununited. I have never seen a case or read of one. When then for any of the last causes mentioned repair has not taken place, it is natural to turn to mechanical measures to increase the hyperæmia of the parts involved. In the past we know that this has been done, either by forcibly rubbing the fractured ends together to excite a fresh traumatic hyperæmia, or by pegging the bones with ivory nails or by massage. These measures have succeeded in many cases and failed in others, in the last case often on account of suppuration. It is only claimed for the elastic bandage that it produces a greater vascularity of all the parts involved easily and without risk if properly done.

The question how long it should be kept up is variously answered. In my own experience all the effects desired have been obtained by the use of the bandage for about two hours morning and evening.

Two of these cases have been shown at the Medical Society.

Harley-street, W.

TENTH CONGRESS OF THE GERMAN ORTHOPÆDIC SURGERY SOCIETY.—The Tenth Congress of the Deutsche Gesellschaft für Orthopädische Chirurgie will take place as usual on the Tuesday of Easter week, April 18th, the day before the assembly of the German Surgical Society, in Langenbeckhaus, Ziegelstrasse, 10 and 11, Berlin. The hour for the opening of the Congress is 9 A.M. The President for 1911 is Dr. H. Hoeftman, Königsberg i.Pr.

THE TREATMENT OF SKIN DISEASES BY HYPERÆMIA (BIER'S SYSTEM).

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I PUBLISHED in THE LANCET of August 29th, 1896, the first results obtained after two years' work on the hyperæmic treatment of rheumatic and other affections by the local application of dry hot air, and I have written several papers on the same subject since. This treatment, with various modifications, has now been adopted in most countries of the civilised world. Previously to the above time Professor Bier of Kiel had published some papers on a hyperæmic treatment which he produced by the application of compression bandages (*Stauungsbinde*), and which is now known as "Stauungs-hyperaemie," or obstructive hyperæmia. Of more recent date he, in conjunction with Professor Klapps, has devised a means of producing the same passive or venous congestion of quite local areas by a modification of the old cupping-glass method. With this object they have invented a series of easily adjustable exhaustion or suction glasses made of various shapes and sizes according to the part to be treated. These consist of a glass tube or cup, to one end of which a rubber ball is attached, and by varying the compression of the ball it is easy to produce a graduated degree of negative pressure, or partial vacuum, or exhaustion of the skin area to which the glass is applied. Larger apparatuses for treating more extended areas or for obtaining a more complete exhaustion are made with a detachable exhaustion pump, in place of the rubber ball.

Some suction cups used in the accompanying cases.

At the present time there are three methods for producing local hyperæmia—namely, (1) by the application of elastic bands or bandages; (2) by means of suction or cupping apparatus; and (3) by hot air. The first two agents produce a passive or venous hyperæmia, and the third an active or arterial hyperæmia. I have been trying some of Bier and Klapps's cups in the treatment of numerous forms of skin diseases and with results so satisfactory that I consider they are worth recording, in order that other workers in the field of dermatology may repeat and extend their use.

I suppose it must be admitted that the majority of skin diseases—in fact, perhaps nearly all, except those caused by parasites, either animal or vegetable—are the result of malnutrition of one or more of the complicated components which together form the epidermal covering of the human body. The general principle which underlies all scientific treatment of skin diseases—whether by external or internal remedies or by a conjunction of both—is to improve, by appropriate means, the nutrition of the affected superficial area. This is easily accomplished by producing an increased blood-supply to the part, and no simpler method is known than inducing this passive congestion or artificial hyperæmia by the scientific application of an exhaustion apparatus, giving rise to a partial vacuum.

In most of the cases treated, I have continued with the local application of the more or less routine ointments and lotions, both to the regions of the skin to which the cups have been applied, as well as to the other lesions—making a point especially of applying the local remedies soon after the hyperæmic treatment, and before the parts have returned to their previous condition. In this way it has been possible to compare the regions treated by hyperæmia in addition to those treated by ointments alone. I have also used this method in many cases in which I was treating some of the lesions with X rays. I have usually made a rule to treat all the lesions with the same ointments, and to begin with, only the eruptions on one side of the body with the suction cups, generally choosing the worst lesions for the new method.

The treatment has been given on the principle of applying exhaustion for various repeated periods of about five minutes' duration with three minutes intervals; usually two to five applications at each *séance*, but no sitting continued for more than an hour or repeated more than once a day. From the nature of the lesions the majority of the patients treated did not suffer any pain or even inconvenience. It was possible to produce a considerable amount of local congestion when desirable—that is to say, the treatment could be continued for longer periods, and with much greater amount of exhaustion of air in the apparatus than is possible or desirable when treating inflammatory lesions such as boils or abscesses. Nevertheless, the applications have to be made with intelligence and caution in order to produce the best results. In the majority of the hospital patients it has only been practical to treat them twice a week; in a few daily treatments have been administered.

I have so far used this treatment in the following classes of diseases, and with the results given under the separate headings, in which a few cases are briefly described to illustrate the chief features: acne, acne rosacea, alopecia areata, chilblain, eczema, keloid, lupus vulgaris, milium, scars, seborrhœa, sycosis, syphilis (tertiary), ulcers (chronic), urticaria (chronic and pigmentosa).

CASE 1. *Acne.*—A female, aged 24, had suffered from severe acne of the face for nine years. She had also some seborrhœa of the scalp. I prescribed a plaster mull of salicylic acid and creasote to be put on at night and a sulphur lotion afterwards to be applied. The right side of the face was subjected to the hyperæmic treatment, this being the more indurated of the two cheeks. After a month the right side was considerably softer and less indurated than the opposite one.

CASE 2. *Acne.*—A girl, aged 16. The rash appeared on her face five years ago; three years ago it had spread to her back, shoulders, and chest, being especially severe over the upper part of the breasts, with considerable general infiltration of the cheeks, forehead, and chin. After a fortnight's daily application of suction glasses, followed by rubbing in an ointment composed of sulphur and salicylic acid, all the areas treated were better than they had been for many months—in fact, parts of the face were cured of infiltration and almost freed from comedones.

CASE 3. *Acne.*—A youth, aged 19, had suffered for five years from severe acne all over the face and neck and considerable general infiltration of the skin. He was ordered a sulphur and salicylic acid ointment for all the diseased regions. I treated the right side of his face with X rays and the left with suction cups. After a few weeks' treatment both sides had considerably improved, especially the left, which had become less infiltrated, and the superficial tissues softer than those on the right side.

CASE 4. *Acne rosacea.*—A woman, aged 38, who had suffered for nine years from a very persistent eruption of the face, especially on the tip of the nose and the chin. The nose was always cold to the touch and very congested at the tip, and the chin was covered with groups of pustular acne, with general redness and infiltration of the surrounding tissues. She was ordered a salicylic acid paste, and after a very few applications of the cups to the nose and chin a very considerable improvement took place. For some time after each treatment the surface of the nose remained warm to the touch, and when last seen the condition was practically cured, but she continued herself to apply a small cup to any fresh spot which appeared and afterwards rubbed in the application.

CASE 5. *Alopecia areata.*—A man, aged 32. He stated that he lost all the hair of his head and face when he was 4 or 5 years old, and from this time he was quite bald till he was 14 years of age, when the hair of his head grew again, but not that of his eyebrows. For the last two years he had had some six patches of complete baldness on the vertex and occipital regions. He had been under treatment ever since, but with no improvement, and for some months had been applying lysol lotions of various strengths to the patches, together with various internal remedies, such as thyroid, &c. A suction cup was applied to the patch on top of the head, and after six weeks of daily treatments a fine growth of hair over the bare surface was visible, the other patches remaining as bald as ever. The skin of this region had lost the shiny appearance and looked altogether darker and more natural in colour.

CASE 6. *Alopecia areata and psoriasis.*—A woman, aged 37. She had a severe attack of rheumatic fever when she was 25 years of age, which left her much crippled for some months afterwards. She had suffered from psoriasis since childhood, always on the front of the knees, and at

times on the body and scalp, she never being entirely free from it. About six months ago she lost the hair from the nasal quarter of the left eyebrow, and a circular patch of complete baldness appeared in the centre of the outer half of the same eyebrow. She applied a small suction cup to the patch of baldness daily, and afterwards applied a weak lysol lotion, and in a few weeks several new hairs appeared on the patch, and at the time of writing it had more or less disappeared and is hardly recognisable except on close inspection. She also applied the hyperæmic method to some very persistent psoriasis spots over the knees, and then rubbed in a tar ointment, and she is now practically cured of the psoriasis.

CASE 7. *Keloid.*—A boy, aged 8, sent to me by Dr. G. Dawson. The child had fallen and cut his face on the pavement when he was five years old, and the resulting scar had gradually extended ever since and now measured 5·25 cm. by 4·50 cm. extending, involving, and everting the right lower eyelid, over the side of the cheek almost to the nose. The edges of the keloid were very hard, infiltrated, and much raised above the surrounding tissues. I treated the upper part of the growth with X rays, and the lower with suction cups, and came to the conclusion that the lower part became softer and improved more rapidly than the upper.

CASE 8. *Lupus vulgaris.*—A Jewess, aged 13, had a small spot on the tip of her nose, which was very red at the time and appeared after a severe cold three years ago. She attended at the London Hospital and afterwards for two years she had X rays applied at the Metropolitan Hospital, but the ulceration continued to spread. When first seen in July last the whole nose was covered by dry scabs covering an unhealthy ulcerated surface. She was ordered carbolic oil and a lanolin ointment. As soon as all the scabs had come away I touched parts of the ulcerated surface with solid CO_2, improvement soon showed itself, but the tip of the nose always remained cold. Bier's suction cups were afterwards applied, and in a short time the whole ulcerated surface had healed over. I gave her one application of the X rays during the treatment.

CASE 9. *Lupus vulgaris.*—A boy aged 5. This case was sent to me for treatment by Dr. A. Eddowes. Eighteen months previously the boy had an attack of measles, and a few weeks after this patches of lupus appeared in different parts of the body. The first came on the centre of the right cheek, then one on the left. Others shortly afterwards developed on the buttocks, thighs, elbow, wrist, and lastly on the chest. There were at this time 13 distinct lupus infiltrations which had not gone on to ulceration, but some were much raised from the surrounding skin and were threatening to break down. I treated the patches on the left cheek, elbow, and wrist with X rays, and those on the right cheek and leg and left buttock with suction cups. He was ordered a carbolic acid lotion and white precipitate ointment to apply to all the lesions. At the time of writing all the areas specially treated have considerably improved and some are nearly healed. Especially is this the case with the patch on the left buttock, where the lesion, which originally measured 2 cm. by 1·125 cm., is now only 1·25 cm. by 0·75 cm., the rest of the area being covered by a thin pale scar. The lesion on the right cheek measured 3·125 cm. by 2·25 cm., and is now 2·25 cm. by 1·80 cm., and the centre has healed. The one on the left cheek (which had been treated for eight weeks with X rays) had measured 3·5 cm. by 2 cm.; it is now 3 cm. by 1·75 cm., and there is no healing or scarring seen in the centre of this patch.

CASE 10. *Lupus vulgaris and scars.*—A woman, aged 27. She had suffered from a "red nose" for some years, and stated that the skin over it often cracked. Six months ago a pimple appeared on the left side of the tip of the nose, which soon became an ulcer, which had persisted in spite of all treatment. I am treating her with applications of a suction cup followed by X rays. Here, again, before treatment the tip of the nose is cold, but after a few minutes' hyperæmic treatment it becomes warm. She has also several scars under her chin and side of neck, the result of suppurating glands in childhood. There is one especially depressed scar under the centre of the chin, to which I am also applying the suction cups with gratifying results, the scar not being so depressed and disfiguring as before, and the ulceration of the tip of the nose has healed. This patient gave a positive von Pirquet's reaction.

CASE 11. *Milium.*—A girl, aged 6, with milia of cheeks and chin. Suction cups were applied to the areas of the lesions, and afterwards salicylic acid ointment was rubbed in. After a month's treatment all the milia had disappeared. It was noticed that at first the application of the exhaustion cups made the milia much more prominent for the time being, and so it was easy to see where to apply the ointment.

CASE 12. *Psoriasis.*—A woman, aged 35, who had had psoriasis for 16 years. She was in the hospital for three months 12 years ago, and it was nearly cured when she came out, but it never completely disappeared, and had been much worse lately. Recently it had been on her arms, legs, and abdomen. I selected some of the most indurated patches above the right knee-joint and over the patella and applied the cups. After treatment she rubbed in a compound tar ointment. The lesions treated by the hyperæmic method certainly reacted more satisfactorily than the others, and after a few weeks they had disappeared.

CASE 13. *Seborrhœa.*—A woman, aged 31, with seborrhœa of the scalp and a very persistent patch on the sternum and another between the shoulders. She also had some lichen planus on the right leg. I applied the cups to the patches on the sternum and between the shoulders, and she rubbed in some salicylic acid paste afterwards and in a few weeks they disappeared.

CASE 14. *Sebarrhœic eczema.*—A woman, aged 59, who had been suffering for some months with a very irritable indurated eruption nearly all over the face, trunk, and limbs. The present attack began with a patch on the front of the right wrist, then one on the leg, and it had gradually spread over nearly the whole body. When first seen she had a considerable amount of induration of the face which gave her a leprous appearance, suggestive of an early case of mycosis fungoides. However, the face has very much improved. I have treated the worst lesions with X rays, and selected a few very indurated patches for the application of the suction cups, with very beneficial results. She has applied a paste consisting of salicylic acid (10 grains to the ounce) and most of the lesions have disappeared and the irritation has subsided.

CASE 15. *Chronic ulcer.*—A man, aged 56, who had suffered from varicose ulcers of the leg on and off for 30 years. At the time of beginning treatment he had a large ulcer, which he had had for six months, and a very indurated smaller one for 18 months. The larger one I treated with X rays, and the smaller one with suction cup. After the first applications a good deal of pus was drawn out, but later only clean serum exuded, and the ulcer healed up in a month.

Summary.

From my observations I have formed the opinion that practically all chronic forms of skin diseases are benefited by the hyperæmic treatment before applying local remedies. The action of ointments and lotions is considerably facilitated if a local congestion of the part is produced before they are applied. This local hyperæmia probably acts in two ways. In the first place, by producing a passive congestion, it increases the blood-supply, and so improves the nutrition of the part, and at the same time encourages the removal of deleterious products by the venous blood. In the second place, this local hyperæmia assists in the local action of the drugs when they are afterwards applied.

Of the cases so far treated, it would appear that the most satisfactory results have been obtained in psoriasis, especially in some very old-standing cases in which the lesions were very chronic and localised. We so often meet with cases of this complaint of many years' standing where some very persistent lesions are limited to a small area, such as the knees or elbows, and which resist all treatment. This is the class of case specially benefited by this method.

Some cases of lupus vulgaris have shown rapid improvement—in fact, from some recent observations the hyperæmic method showed earlier and much more satisfactory results than the X rays had done. Acne, both diffuse and local, reacted well, but these cases required a considerably greater amount of congestion and more frequently repeated treatments, both general to a large affected area, and afterwards local to the individual and more persistent comedones and pustules.

The immediate result of the local treatment is to produce a venous congestion of the skin, which increases the action of the sudoriferous glands, and gives rise to a varying degree of perspiration. This varies with the nature of the lesion and the degree of hyperæmia produced. In some conditions only an almost imperceptible amount of sweating results—perhaps just sufficient to produce a slight haziness on the sides of the cupping glass without a visible sweat on the skin. In others, such as many eczemas and seborrhœas, a profuse perspiration is quickly produced, and after a few minutes the whole part is bathed in sweat. In other cases the ordinary sweat is replaced by a serous exudation. In some instances of non-ulcerated lupus, which as a class perspire very freely under the treatment, a blood-stained serum exuded after a short time, and for this reason the cases require to be very carefully treated and only for very short periods at a time, one minute or so being usually sufficient.

I believe future research into the different reactions of various skin lesions under hyperæmia will be of considerable scientific value in assisting and defining the similarities or differences between some of the less easily distinguished skin diseases. These physiological or pathological reactions of various lesions may not only become a help to the pathologist but also of considerable aid to the diagnosis of some, at present, rather ill-defined and readily confused morbid states.

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ON THE EXTERNAL APPLICATION OF MAGNESIUM SULPHATE IN THE TREATMENT OF ERYSIPELAS.[1]

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SPECIAL ASSISTANT HEALTH OFFICER, BOMBAY MUNICIPALITY; IN CHARGE OF ARTHUR ROAD INFECTIOUS DISEASES AND MARATHA PLAGUE HOSPITALS, BOMBAY.

THAT the common and homely drug known as Epsom salts possessed any other property save the one usually associated with it was scarcely known up to within three years ago. The anæsthetic effects resulting from its subcutaneous application, however, induced Dr. Henry Tucker, of the Philadelphia General Hospital, to apply it for the relief of pain in local inflammatory conditions, with rather surprising results. For, apart from the relief of pain and discomfort, it was found that it controlled and eventually led to the cure of the inflammatory process. Numerous observations in gonorrhœal epididymitis and orchitis, gonorrhœal rheumatism, acute articular rheumatism, neuritis, &c., gave equally satisfactory results.[2] Erysipelas[3] and cellulitis were the other affections in which a marked beneficial influence was observed from its local application. And further, on account of its antispasmodic and analgesic properties, magnesium sulphate has been administered by intraspinal, subarachnoid, and subcutaneous injections for the relief of spasms in tetanus, as also of the lightning pains of locomotor ataxy. Miller[4] has reported 14 cases of tetanus so treated; 11 were treated with subarachnoid injections, and five of them recovered. The author says that magnesium sulphate brings about complete muscular relaxation. This prevents rapid exhaustion and enables the patient to take nourishment. The dose is 1 c.c. of a 25 per cent. sterile solution to each 25 lb. of the body weight of the patient. Paterson[5] reports a case of tetanus, in which he used 10 c.c. of a 10 per cent. solution subcutaneously—5 c.c. in each thigh—four-hourly. The injections were found to be painful, but the spasms were greatly relieved. He thinks that probably larger quantities of a weaker solution would obviate the local discomfort of these injections.

It may be interesting to note in this connexion that magnesium sulphate, when it fails through some cause or other to act as a purgative after internal administration, gives rise to serious toxic disturbances. In a case reported by Neale[6] it was observed that after taking an ounce of the salts no purging was produced, but there was stimulation of certain motor centres causing tetanic spasm of the face and arm, together with paralysis of the inhibitory fibres of the pneumogastric to the heart, paralysis of the muscular fibres of the stomach and bladder, and of the muscular coats of the blood-vessels, as shown by the absence of the radial pulse and general cyanosis.

In a further communication Dr. Tucker has described its effects in 19 cases of erysipelas complicated with alcoholism, acute nephritis, myocarditis, pneumonia, &c., with but three deaths, and in 35 uncomplicated cases without a single death. The latter recovered within two to seven days, pain and the usual local discomfort having been relieved in a few hours. No internal treatment was given. The treatment has been applied by him and others in nearly 700 cases of various forms of inflammation with uniformly good results, and he claims the following advantages for it in almost all cases:—

Firstly, the drug can be obtained at any country store, is easily made into solution, is inexpensive, non-toxic, and clean; it is also easy of application if the directions are properly followed.

Secondly, the patient promptly obtains relief from the distressing local symptoms usually present.

Thirdly, the temperature rapidly falls to normal usually during the second twenty-four hours, and does not rise again, thereby eliminating possible complications from fever.

Fourthly, internal medication is not indicated in uncomplicated cases, the only treatment being a milk diet for the first few days, or, to be more accurate, until the temperature reaches normal.

Method of application.—A saturated solution of magnesium sulphate in water (preferably strained through muslin) is to be applied round the limb or on the face as a mask, extending well beyond the inflamed area in 10–15 layers of gauze or a thin layer of absorbent cotton or lint, and covered with oiled-silk or wax-paper. The dressing should be wetted as frequently as it gets dry, about once in two hours. It should be removed once in 12 hours for inspection and immediately reapplied. The affected area should not be washed during treatment. Dr. Tucker says that the attendants complain of partial loss of sensation and tingling of the hands and arms lasting for some hours.

Mode of action.—No explanation is forthcoming as to how these effects are produced by magnesium sulphate. The editor of the *Therapeutic Gazette*, from personal experience and reports of other observers, whilst endorsing the utility of the treatment, that it certainly gives extraordinary results in the treatment of acute articular rheumatism, erysipelas, and the relief of pain associated with local inflammation, admits that the method, like several others in common use, is purely empirical, and that the local action of magnesium sulphate cannot be explained on any known experimental or other data. Nor is its osmotic influence adequate to explain these effects, as other salts having the same action do not bring about the same results. We must for the present at least be content with the empirical use of the method, leaving the explanation of its action to the future.

As erysipelas and cellulitis have been lately included among the infectious diseases that have to be received at the Arthur-road Hospital, I had occasion to give this method a fair trial in a limited number of cases. Erysipelas may be defined, in the words of a recent observer, as an acute inflammation of the epidermis due to the presence of one of the organisms of the streptococcus class, of which the streptococcus pyogenes is the most frequent example. Cellulitis is a strictly comparable inflammation of the cellular tissues, and when the inflammatory process involves both the epidermis and the cellular tissues the condition of cellulo-cutaneous erysipelas results. My observations extend to 72 cases only, seven of whom were moribund on admission and will therefore be excluded from consideration; 35 cases belonged to the cellulo-cutaneous type, several of them of long duration, with extension and deep suppuration and sloughing, especially of the upper and lower limbs. These cases, as was to be expected, did not respond well to the treatment. Of the remaining 30 cases, most of them were of erysipelas and a few of cellulitis. The solution of magnesium sulphate was applied according to the above directions, and it was found to have a marked effect in lessening the pain and in preventing further extension except in a very few cases of the severest type. No special internal medication was administered, except such as was necessitated by the complications present, such as pneumonia, exhaustion, cardiac weakness, &c. The improvement within a few hours after the application was extremely well marked in erysipelas of the face and head, with œdema in the eyelids, &c., the pain and swelling considerably lessening within one to three days with fall in temperature. In six cases, however, the inflammatory process was not controlled, and extended beyond the original area in spite of the treatment. A few illustrative cases will serve to demonstrate the action of the application.

CASE 1.—Erysipelas of the face and head; nose considerably swollen; duration four days. Immediate and steady improvement with fall in temperature from 103° F. to normal in two days. Discharged in 12 days.

CASE 2.—Post-operative erysipelas after mastoid operation; transferred from the Jamsetjee Jeejeebhoy Hospital on the fourth day of illness; extensive cellulo-cutaneous erysipelas invading the head, face, and neck. Much improvement in four days; subsequent extension downwards, involving the chest and back and both arms, with rise of temperature. Polyvalent antistreptococcus serum injected in addition: 280 c.c. in six injections, one each day (60 c.c., 60 c.c., 40 c.c., 60 c.c., 40 c.c., 20 c.c.). Rapid improvement thereafter. Convalescence tardy; discharged after seven weeks. The temperature chart shows remissions from 102° F. to 99° until the eleventh day of illness, when the temperature came down to normal, rising again on the eleventh and fourteenth days to 101° and 102° respectively.

CASE 3.—Cellulo-cutaneous erysipelas involving both thighs and vulva; duration 15 days. Considerable relief with fall of temperature in four days; slight extension downwards, promptly controlled; discharged in three weeks. The chart shows that on the fourth day after admission the temperature came down to normal from 103·6° F. It rose again to 102° on the twentieth and twenty-second days of illness, and thereafter remained at the normal level.

CASE 4.—Cellulo-cutaneous erysipelas of face and neck; duration four days. Steady improvement and fall of temperature. After an interval

[1] A paper read before the Bombay Medical Union, Nov. 27th, 1910.
[2] The Local Use of Magnesium Sulphate Solution in Inflammation, by Dr. H. Tucker, *Therapeutic Gazette*, April, 1907.
[3] Ibid., June, 1908.
[4] American Journal of the Medical Sciences, October, 1908.
[5] THE LANCET, April 2nd, 1910.
[6] THE LANCET, August 15th, 1896.

of three days there was extension downwards to the chest, with elevation of temperature; compresses reapplied with good effect. Rapid convalescence; discharged in three weeks. The chart shows oscillations of temperature between 100° and 102° F. for six days corresponding to the extension of the disease to the chest.

The above four cases generally bear out all that has been claimed for this form of treatment. In almost every instance the immediate effects of the application of magnesium sulphate solution were extremely beneficial. Pain and swelling abated, fever decreased, and extension of the infection was controlled in the majority of cases. The results, however, have not been so uniformly good as Dr. Tucker's, inasmuch as advanced and neglected cases, as also cases of the graver type, so largely prevailed. In six cases, for example, the inflammatory process extended so rapidly, in spite of this treatment, that antistreptococcus serum had to be injected, but only one of them recovered. The quantity injected varied from 60 c.c. to 280 c.c. Excluding the above and the seven moribund cases there remained 59 cases with 13 deaths and 46 recoveries, equivalent to a case mortality rate of 22 per cent., as compared with 15·9 per cent. in Dr. Tucker's complicated cases.

On the whole, therefore, I can confidently recommend to notice and trial this extremely cheap and efficacious method of treatment of erysipelas and cellulitis.

Bombay.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF SCLEREMA NEONATORUM.

BY R. E. SEDGWICK, M.D. CANTAB.,
HONORARY SURGEON TO THE CARLISLE DISPENSARY, ETC.

THE rarity of sclerema neonatorum justifies the publication of the clinical notes of every case, since the pathology of the condition has not yet been definitely settled.

The child was one of male twins and was 12 days old when my house surgeon, the late Dr. H. B. Stephenson, asked me to see the case with him. The twins had been healthy when born and weighed 5 lb. each. They were breast fed. The mother, aged 40 years, had had 14 children (including one previous twin-birth), of whom 11 were still living, the death of the three others being due to scarlet fever, bronchitis, and convulsions respectively. The conditions under which the family lived were poor and sordid. The child in question was noticed to be "queer" on the tenth day by the "nurse"—a neighbour—who drew attention to the peculiar stiffness of the left leg and thigh. When first seen, the child was wrapped up in blankets close to the fire. There was a tinge of jaundice in the skin and its cry was feeble and high-pitched. It had fed well and continued to do so. Both legs and both thighs were stiff and rigid, no movement of any sort being observed. The abdomen moved with respiration, but the hands and forearms were also rigid and motionless like the lower limbs. The skin of the affected limbs was normal in colour but cold to the touch, although circulation was well maintained as observable in the nails of the fingers and toes. The skin felt like soft leather, but the underlying tissues were very hard, almost bony. No impression could be made on the skin which could not be pinched up from the underlying tissues, and pressure did not vary the hardness of the muscles. Passive movement in the affected limbs was obtained with difficulty, giving an unpleasant impression of possible fracture. The funis was normal. There was a small hæmorrhagic effusion, the size of a sixpence, below the left internal malleolus and a smaller patch in the middle of the sole of the right foot. A blood count was made but with great difficulty owing to the extremely rapid coagulation. The blood was dark in colour and flowed very slowly. The result was as follows: Hæmoglobin, 100 per cent.; red cells, 4,300,000; white cells, 7800. A differential count showed a normal lymphocytosis.

The child died on the fourteenth day, and a very limited examination was allowed four hours after death. The skin was tough, parchment-like, and difficult to cut; there was no exudation on cutting through skin or muscle. In cutting the muscle a sensation was experienced as of drawing the knife through very stiff dough. All the muscle was very pale on section. No obvious abnormalities were noted. Pieces of skin, muscle, liver, and kidney were examined microscopically. The muscle shows a little segmentation and an occasional breaking up of the nucleus, but nothing else to comment upon. The other sections are practically those of normal tissue.

The muscle was sent to the Pathological Department of the University of Durham for analysis for fat. Professor R. A. Bolam reported as follows:—Muscle from thigh: weight of muscle, 0·16 gramme; weight of fat, 0·135 gramme; fat percentage, 84. Muscle from abdomen: weight of muscle, 0·395 gramme; weight of fat, 0·16 gramme; fat percentage, 40·5. Average fat percentage of normal muscle, 2·27.

The above facts would appear to show that sclerema neonatorum is not at any rate an inflammatory condition, while the extraordinary fat percentage in the muscle seems to point to a rapid chemical change which, however, does not appear to have much effect upon muscle structure.

Carlisle.

NOTE ON A CASE OF SLIDING HERNIA OF THE SMALL INTESTINE.

BY GWYNNE WILLIAMS, M.S. LOND., F.R.C.S. ENG.,
SURGICAL REGISTRAR, UNIVERSITY COLLEGE HOSPITAL, LONDON.

THE patient, a negro, aged 25 years, was admitted to the Seamen's Hospital, Greenwich, for the cure of a right inguinal hernia. On dissecting away the coverings of the cord, what was taken to be the sac was separated out and opened, but was found to be only a serous-lined cavity which had no communication with the sac of the hernia. This latter was situated external to it and attached to it by a fibrous cord. The sac of the hernia could be made more prominent by pulling it down, and could be reduced entirely into the abdominal cavity. It contained something which felt like bowel, but it was impossible to reduce the contents without reducing the sac itself, thus showing that the bowel must be adherent to the sac wall. The hernia was of the oblique variety, the deep epigastric artery running along the inner side of the neck.

On opening the sac there was seen to be a coil of bowel adherent to the wall and a coil apparently of small intestine, but this coil had no mesentery, being only surrounded by peritoneum on three sides. On tracing it towards the middle line a mesentery gradually appeared, while in the opposite direction it remained in the same condition as in the sac until it ended in the cæcum. This, as far as could be made out through the limited opening in the abdominal wall, also had no mesentery. The portion of the ileum without a mesentery was about six inches in length and was bound down to the parietal peritoneum of the iliac fossa which had been dragged down into the hernial sac. There were no other adhesions present, the appendix was quite free, the peritoneum was perfectly smooth—in fact, there was nothing to suggest that the condition was the result of inflammation, and one must conclude that it was a congenital abnormality. The intestine being fixed to the iliac fossa, the coil in the sac was adherent posteriorly. The upper part of the sac was cut away and the upper cut edge of peritoneum stitched to the peritoneum reflected from inferior aspect of the ileum. The canal was closed by Bassini's method.

I cannot find any account of this condition either from the surgical or from the anatomical aspect.

New Cavendish-street, W.

NOTE ON A CASE OF SUPPURATIVE PYLEPHLEBITIS.

BY G. A. BROGDEN, B.A. CANTAB., M.D., CH.B. EDIN.

THE following case may be of interest since it records an instance of recovery from acute suppurative pylephlebitis.

The patient, a boy, 12 years of age, was under my care suffering from an attack of appendicitis. During convalescence and after the temperature had been normal for several days it ran up to 103° F., he had a rigor, and complained of pain, which was localised in the epigastric region. A smooth, well-defined swelling, very sensitive to pressure, became palpable in this region. A diagnosis of acute suppurative

pylephlebitis was made, and a surgeon who was called in suggested an operation as a last resource. I was present at the operation, and the following is an extract from notes made at the time. The liver was exposed by a mesial incision in the epigastric region. The right lobe appeared normal, but the left lobe was very swollen and intensely congested. There was no peritonitis. A trocar and cannula were introduced deeply into the liver substance, and a small quantity of very fœtid pus escaped. The opening thus made was slightly enlarged, a half inch drainage-tube was inserted, and the abdominal wound was closed. The patient remained very ill for three days; then the temperature began to fall, and he made an uninterrupted recovery. A little pus escaped from the wound for about a week. The tube was removed altogether at the end of a fortnight. The condition of the appendix was not ascertained.

Oadby, Leicester.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Loss of Abdominal Movements in Pericarditis.

A MEETING of this section was held on Jan. 24th, Dr. J. MITCHELL BRUCE, the President, being in the chair.

Dr. A. E. GARROD read a paper on the Auscultation of Joints, which was published in THE LANCET of Jan. 28th, p. 213.

Dr. W. ESSEX WYNTER read a paper on Absence of Abdominal Respiratory Movement as an Indication of Pericarditis. He said that in a disorder so serious and attended with so little obvious indication as pericarditis, an additional and manifest physical sign, provided it was to be trusted, should be especially welcome. The sign suggested in this communication was inhibition of the action of the diaphragm, indicated by suppression of normal abdominal respiratory movement, and had probably been hitherto overlooked through examination being unduly restricted to the chest in such cases. Loss of abdominal respiratory movement as an indication of disease, except in paralysis of the phrenic nerves, had been to a great extent monopolised by observers in connexion with peritonitis and acute abdominal lesions. It was largely from that standpoint that Dr. William Pasteur dealt with that phenomenon and the resulting thoracic lesions in his highly instructive Bradshaw lecture. Primary thoracic disease, however, had its share in causing suspended function of the diaphragm, though in the majority of instances affecting the lung and pleura that was one-sided, and the influence on abdominal movement consequently less marked. In acute pericarditis, on the other hand, the cessation of phrenic action was bilateral, and consequently absence of abdominal movement was as obvious as in abdominal disorders, albeit other abdominal manifestations, such as muscular rigidity and general tenderness, were lacking. There was no doubt that when attention was directed to the matter and a definite note made as to the presence or absence of abdominal movement, that feature would be found fairly constant in acute pericarditis, especially that with fibrinous exudate. When the front of the body was fully exposed the stillness of the abdomen was very striking, suggesting peritonitis, unless, as sometimes happened, there was inspiratory recession, which might mislead, unless the want of correspondence with the movement of the upper chest was noticed. The inertness of the diaphragm was not merely inferred, but by X ray screen examination could be actually observed, the midriff mounting high into the thorax and exhibiting no contraction, and in some instances an actual rising of a quarter of an inch with each inspiration. In one case the contents of the upper abdomen, such as the kidneys and opaque masses in the intestine, could be seen to participate in that upward inspiratory movement. Concomitant and indeed consequent phenomena were: a tendency to dilatation of the hollow abdominal organs, especially the stomach, collapse and loss of function in the lower lobes of the lungs, slight upward displacement of the heart and of the organs beneath and in contact with the diaphragm. Loss of abdominal movement, as a sign of pericarditis, was the more valuable in that it might precede and outlast the other indications and so afford grounds for anticipatory or retrospective diagnosis. The condition afforded a reasonable explanation of the cyanosis and dyspnœa so usual in the complaint and of the upright position so commonly assumed by the patient. The former expressed the effect of respiration restricted to the function of the upper lobes of the lungs, and the latter pointed to an unconscious effort on the part of the patient to utilise the weight of the abdominal viscera to depress the passive diaphragm and enlarge the thoracic area. Restriction of abdominal movement was apparently more marked in fibrinous than in effusive pericarditis, movements being more productive of local irritation in the former than in the latter condition, as was the case in other serous sacs, such as the pleura and peritoneum. Incidentally the observation of the existence of a limited amount of serum in at least one of the cases by X rays, in the absence of other clinical indications, was suggestive that extended observations might show that to be more frequent than was formerly supposed, for in the recumbent posture a few ounces of fluid would naturally gravitate to the lowest part of the sac, and scarcely reveal its presence over the front of the heart.

Dr. PERCY KIDD said that he had a strong conviction that he had seen a motionless abdomen in cases of pericarditis.

Dr. M. A. CASSIDY said he had seen two cases diagnosed as suffering from acute abdominal lesions which turned out to be instances of pericarditis.

Dr. NATHAN RAW said that after receiving the notice of the paper on the diary card sent out by the society he had seen a case of acute pericarditis in which the abdomen was quite fixed, the recti muscles being quite tense.

Dr. R. HUTCHISON said that the loss of movement did not occur in all cases of pericarditis. Perhaps the loss of movement was noticed when the pericardial diaphragmatic surface was affected.

Dr. A. F. VOELCKER said he followed Dr. Hutchison in what he had said about the absence of movement of the abdomen in pericarditis.

Dr. JOHN FAWCETT thought they should be cautious in drawing conclusions in the early stages of cases, because some of these cases were suffering from pneumococcal peritonitis in which the pericarditis was only a sign of a further infection.

The PRESIDENT said that there were genuine abdominal cases from which some spread of inflammatory abdominal process might take place through the diaphragm into the pericardium.

Sir JOHN BROADBENT drew attention to the fact that he had seen a pericardial case in which on a deep inspiration some abdominal movement took place in the lower part of the abdomen.

Dr. ESSEX WYNTER concluded his reply by saying that he was not prepared to say that every case of pericarditis would show loss of movement in the abdomen.

OTOLOGICAL SECTION.

Bacteriology of Chronic Post-nasal Catarrh.—Exhibition of Cases.

A meeting of this section was held on Jan. 20th, Mr. ARTHUR H. CHEATLE, the President, being in the chair.

Mr. C. E. WEST read a paper entitled "The Bacteriology of Chronic Post-nasal Catarrh—a Preliminary Study from 50 Cases." He said that the material for examination was obtained by means of a specially devised post-nasal cannula shielding a sterile swab, which could be made to protrude when the cannula was in the naso-pharynx and could be withdrawn into its sheath before the instrument was removed from the mouth. Pneumococci were found in nearly 70 per cent. and were predominant in 36 per cent. of the cases. Streptococci (undifferentiated) were isolated in 24 per cent. Staphylococcus aureus occurred, generally with pneumococci and streptococci, in 26 per cent. Friedländer's bacillus was found in 12 per cent., being predominant in 6 per cent. Micrococcus catarrhalis appeared in 10 per cent. After contrasting these with control cases Mr. West concluded that the flora did not appear to differ materially in kind from that found in the average naso-pharynx. He hoped by further researches to furnish data on which broader deductions could be based.

Dr. W. MILLIGAN described two cases of Otitic Cerebellar

Abscess, which recovered after operation, and two cases illustrating the surgery of labyrinthine infection.

The PRESIDENT showed a patient with an Exostosis in the Tympanic Cavity, and in conjunction with Mr. G. J. JENKINS described a unique case of great importance in which disease in a large sinus tympani caused persistence of discharge after the radical operation. Caloric tests were applied by a copper conductor and ethyl chloride spray to the exposed inferior crus of the posterior semicircular canal.

Mr. CHICHELE NOURSE presented a boy who had recovered from a localised Infection of the Lateral Sinus without ligature of the jugular vein.

Dr. G. C. CATHCART described the application of Bier's treatment in a case of Acute Suppurative Otitis Media with signs of Mastoiditis.

Dr. DAN MCKENZIE demonstrated Barany's Lärm Apparat upon a man with apparently absolute unilateral deafness due to a cause unknown.

OPHTHALMOLOGICAL SOCIETY.

The Pituitary Body and Lesions of the Optic Chiasma.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 26th, Mr. G. A. BERRY, the President, being in the chair.

Mr. J. HERBERT FISHER read a paper entitled "The Pituitary Body and Lesions of the Optic Chiasma." After alluding to cases which from time to time had been reported in the Transactions of the society, Mr. Fisher dealt shortly with the development, structural anatomy, and function of the hypophysis cerebri. Reference was made to the recognition and elucidation of acromegaly by Marie in 1886 and subsequent years, and Frohlich's train of symptoms known as "dystrophia adiposo-genitalis" was sketched. Recent experimental work on the pituitary body and its function by Pavlesco and Harvey Cushing was narrated. The association between the hypophysis cerebri and other ductless glands was reviewed. Cushing deduced from his extensive work on the subject that acromegaly and gigantism were the result of hypersecretion of the anterior lobe of the pituitary gland, while Frohlich's train of symptoms was the result of hyposecretion. Mixed cases were explained on this theory. Mr. Fisher then detailed nine cases of pituitary body and chiasma lesion which he had personally observed, over a long period of time in most instances. The cases provided examples of acromegaly and of Frohlich's syndrome in complete and in partial manifestation; one complete case showed that this train of symptoms might develop in the adult as well as in the child. The cases showed the early liability to sexual disturbance and impotence in pituitary body lesions. Primary atrophy, not papillœdema, was the ophthalmoscopic phenomenon in all the cases. Some examples of very practical benefit by treatment with thyroid extract or pituitary extract were afforded. In the later cases special extract of the anterior pituitary lobe only was being tried with some encouraging signs of benefit. In every case charts of the field of vision were exhibited and the necessity of perimetry for the diagnosis was insisted on. The additional value of X rays in demonstrating enlargement and destruction of the sella turcica was well examplified by the skiagrams of the patients.—The PRESIDENT, in initiating the discussion on the paper, invited members to narrate any experiences they might have had of such cases, and particularly if they had had any in which treatment had been beneficial; there were probably many who had seen cases of bi-temporal hemianopia due to acromegaly. An interesting point was as to the proportion of cases of acromegaly in which eye symptoms were present. Did the cases showing bi-temporal hemianopia begin with changes in the pituitary body, or were they cases in which, owing to changes subsequently taking place in the sella turcica, there were pressure effects on the decussating fibres which ran to the ventral surface of the chiasma?—Mr. J. B. LAWFORD reported a case very similar to those of Mr. Fisher. The patient was a man aged 36 years, and was under observation 21 months. He came with his left eye nearly blind, there having been a history of progressive loss of sight on that side. The vision in the right eye at that time was 6/12. He was a thin man, but healthy-looking, and the loss of sight was his only complaint. There was no definite history of syphilis, although he had a sore on the penis seven years previously, but without secondary symptoms. The other special senses were normal; there was no headache, no sexual incapacity, and no signs of tabes. There was optic atrophy well marked in the left eye, and pallor of the right disc. On account of the history of a chancre, he was put on antisyphilitic treatment for a short time, but no improvement occurred, and three months later he had thyroid treatment. At that date the vision in the good eye had been reduced from 6/12 to 6/24 and 18 J., and he had lost a large part of the temporal field in the right eye. After treatment by thyroid, the central vision rose from 6/24 to 6/6, and from 18 J. to 1 J. X ray examination of the base of the skull was negative. Later there was again failure of sight, and he was again taken into hospital and put on to pituitary extract alternating with thyroid extract; Mr. Lawford did not then know of the special anterior lobe extract. The vision steadily failed, and when last seen that of the right eye had fallen to perception of hand movements. The man remained free from other symptoms of disease.—Mr. R. W. DOYNE expressed regret that Mr. Fisher did not ascertain the field for colour in those cases. In some cases showing hemianopic loss there was a normal white field. Ten or 12 years ago he published particulars of one case of acromegaly in which the field for white light was normal, but the whole of the upper sector was lost for colour. In that case, which went from bad to worse, he could tell beforehand how it was going by the loss of colour which occurred first.—Mr. J. JAMESON EVANS (Birmingham) narrated the case of a patient who suffered from hemianopia but no other change. That went on for ten years, and then he developed some other symptoms, which led to an operation for pituitary growth, but it was not successful. He thought that in some of the cases cryptorchism was present. He treated one case with thyroid extract, with loss of weight as a consequence. Pituitary extract resulted only in an increased secretion of urine. Cases of acromegaly seemed to do well on mixed treatment by thyroid extract and pituitary extract.—Mr. F. RICHARDSON CROSS said the cases seen were those in which there was pressure on the chiasma. He had a young woman in whom the menstrual function was very imperfect, and whose mental attitude was unsatisfactory. He operated on her for squint, and she had typical symptoms of acromegaly. She had been treated unsuccessfully with thyroid extract and pituitary extract, and he showed charts of the fields of vision. He also showed some charts of a patient who had pressure on the chiasma, but in whom there was no acromegaly.—Mr. F. HEWKLEY asked whether there was hyperæsthesia of the remaining sentient portion of the retina. In one case when the person passed by a street lamp in a suburb the light would apparently be very dazzling to his eyes.—Mr. FISHER replied that the cases which he had reported were not acromegalic, with the exception of the first one. He felt sure that in many instances there was enlargement or growth in the region of, if not developing in, the pituitary body and pressing on the chiasma. He regretted he did not investigate the colour fields, owing to the stress of out-patient work. But he would hesitate to accept Mr. Doyne's observations that early contraction or loss of the temporal portion of the field for colour must be an inevitable precursor of loss of vision, though if that were so it would be a great guide to prognosis.

Mr. E. A. DORRELL showed a drawing of Unusual Appearance of the Iris in Congenital Syphilis; also a Paracentesis Needle for use in preparing vaccines from the aqueous.

Mr. R R. JAMES exhibited a case of Pedunculated Tumour of the Conjunctiva.

Mr. ANGUS MCNAB showed a case of False Projection.

Mr. J. S. HOSFORD brought forward six cases illustrating Congenital Dislocation of the Lens.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Cæsarean Section under Spinal (Stovaine) Anæsthesia.—Double Ovarian "Cold" Abscess.—Manipulation Lacerations of Uterus.

A MEETING of this society was held on Jan. 20th, Dr. W. K. WALLS, the President, being in the chair.

Dr. H. BRIGGS showed specimens of (1) Tubal Pregnancy with Thin-walled Cyst of the Opposite Side of the Pelvis;

(2) Old Hydatid Cyst with 15 Years' History; and (3) Placental Tissue in the Uterus in Two Cases without the Usual Clinical History.

Dr. A. DONALD showed Tubercular Ovaries, Tubes, and Uterus which had been removed from a girl aged 18 years. The symptoms were mainly continuous uterine hæmorrhage for three months with pelvic discomfort. There was some loss of flesh but not very marked. Examination revealed a tense swelling in the pouch of Douglas continuous with a tender mass in the right iliac region. On opening the abdomen on July 27th, 1910, two ovarian abscesses were found firmly united to one another, to the uterus, and to surrounding structures. The adhesions were so dense that the only way of removing the tumours was to work from one side of the pelvis to the other, removing the left appendages, uterus, and right appendages in one mass. The patient made a good recovery and at the present time (six months after the operation) was in good health. The pathological examination by Dr. Fletcher Shaw showed the presence of giant cells and small-celled infiltration in both tubes, in a large lymphatic gland attached to the mass, and in the endometrium.

Dr. J. B. HELLIER showed a specimen of Dermoid Cyst of the Right Ovary, Simple Cyst of the Left Broad Ligament, and Bilateral Papillomatous Ovarian Disease.

The PRESIDENT reported a case of Cæsarean Section under Spinal (Stovaine) Anæsthesia, mitral stenosis and kidney disease rendering the patient a bad subject for general anæsthesia. The operation was performed when the patient was about eight months pregnant, as there was great dyspnœa, accompanied by marked water-logging of the lungs, general œdema, and a large amount of albumin in the urine. The patient made a good recovery and her general condition was greatly relieved. Unfortunately the baby died in a convulsion when three days old.

Dr. WILLIAM FLETCHER SHAW showed a case of apparently Double Ovarian Abscess which occurred in a patient without any rise of temperature or pulse or general malaise. The walls of the abscess cavity were hyperæmic but showed no granulation tissue. The contents were chiefly colloid material with a good number of leucocytes; no micro-organisms were found. He raised the question whether these apparent abscesses without general symptoms were really due to micro-organismal infection or were simple cysts which had rapidly enlarged, their contents merely assuming the appearance of pus.

Dr. A. J. WALLACE related two cases in which Manipulations carried out to effect delivery had produced serious Lacerations of the Parturient Uterus. A primipara, aged 31 years, was sent into the maternity hospital with the history that labour had begun 48 hours previously. The midwife summoned medical assistance and then attempts were made to deliver first with forceps, then by version. It was thought that a tough fibrous band divided the uterus into two halves and that this prevented delivery. The patient was suffering from profound shock; her pulse was 140, and there was some vaginal bleeding. A deep tear was found in the posterior vaginal wall, the cervix was badly lacerated, and the anterior aspect of the retraction zone was torn away from its attachments, the retraction ring forming the band described. A leg was brought down and delivery effected, but the patient's condition did not warrant further interference, apart from her being "suspect" as regards infection. Death occurred three days later from sepsis. The second case was that of a woman, aged 40 years, who had had five children. At the onset of labour a breech presentation was converted into a vertex by external version. Inertia uteri was present throughout, necessitating manual dilatation of the cervix and the use of forceps. On recovering from the anæsthetic the patient complained of agonising abdominal pain, tympanites developed and increased, neither fæces nor flatus being passed, whilst the pulse-rate remained at 120. Dr. Wallace saw her 48 hours later; the vaginal portion of the cervix was intact, but a tear through the lower uterine segment opened into the left broad ligament, the lamellæ of which were widely separated by blood and clot. Through the posterior lamella there was a rent leading into the peritoneal cavity. When the abdomen was opened much blood and clot escaped. Abdominal hysterectomy was performed, and the patient recovered after a stormy convalescence.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Intussusception —Red Degeneration of Fibroids in Pregnancy.—Exhibition of Cases, Specimens, &c.

A MEETING of this society was held on Jan. 20th, Dr. A. CHRISTY WILSON, the President, being in the chair.

Mr. H. J. ROPER read the notes of a case of Intussusception in a child aged 8 years. The symptoms, pain and vomiting, had lasted for nine hours. On opening the abdomen he found it quite impossible to reduce the invagination, which was of the ileo-colic variety, on account, as he thought, of it having passed through the ileo-cæcal valve. The intussusception was almost eight inches long, and fearing the consequences of resection, he made a lateral anastomosis between the ileum above the intussusception and the colon beyond the point to which it extended, leaving the intussusception *in situ*. The child recovered and has remained well ever since (November, 1909). He was of opinion that this operation should be performed in recent cases where the condition of the invaginated gut was good, in preference to resection which was notoriously fatal.

Mr. C. H. GREENWOOD made remarks on a Case of Red Degeneration of Fibroids in Pregnancy, with acute symptoms, in which hysterectomy had been performed. The patient, a primigravida, was seized with sudden acute pain and vomiting; a diagnosis of ovarian tumour with twisted pedicle was made. The condition found at operation was red degeneration of a pedunculated fibroid; as there were several other fibroids, hysterectomy was done. Recovery was uneventful. The specimens showed early red degeneration in streaks and patches amid normal myoma tissue. The red areas showed degenerate muscle fibres, blood stasis, and dilated vessels, but no thrombosis. The pale areas showed no vascular dilatation. It was suggested that the degenerating myoma cells liberated some bodies which act first as hæmolysins, thus causing the discolouration, and secondly, as fibrin-ferments, leading to stasis (as seen in the present specimens) and then thrombosis; and that the onset of the acute symptoms corresponded to these changes. The thrombosis, &c., was thus secondary to the degeneration, not the cause of it.

Dr. E. F. TREVELYAN showed: 1. A case of Muscular Dystrophy (Pseudo-hypertrophic Paralysis) of 12 years' duration in a man now aged 20 years. There was pseudo-hypertrophy of the calf muscles, but particularly of the triceps muscles. There was marked atrophy of the glutei and latissimus dorsi, but only slight atrophy of the lower pectorals and spinati. The scapulæ were slightly winged. The gait was waddling and there was lordosis in the lumbar region. 2. A case of Graves's Disease undergoing retrogression in a woman, aged 40 years. She had been long under observation and had an acute attack of insanity about ten years ago. All the signs had considerably improved, but somewhat unsymmetrically. Thus the exophthalmos had almost disappeared on the left side and the tremor was less marked in the left than in the right arm.

Mr. H. COLLINSON showed a case of Calculous Anuria in which, after an attack of pain in the left kidney region, followed by hæmaturia, complete suppression of urine occurred, and lasted for five days. Examination by the X rays showed no evidence of calculus. Exploration of the left kidney on the fifth day of anuria revealed a calculus impacted in the opening of the ureter. This was extracted through an incision in the renal cortex and the kidney was drained. Urine began to be secreted in a few hours. Recovery was uneventful.—Dr. L. A. ROWDEN explained that the calculus on analysis was found to be almost pure uric acid stone, and hence was not demonstrable by the X rays.

Mr. S. THOMPSON ROWLING showed an Improved Apparatus for Administering the Oxygenated and Warmed Vapours of Ether and Chloroform for General Anæsthesia. The apparatus consisted of two cylindrical glass tubes placed vertically side by side, the one containing ether, the other chloroform. Warmed oxygen was passed through the ether or chloroform, and the oxygenated anæthetic vapours were administered to the patient through a perforated tube arranged in a wire frame, which was covered with gauze. The cylindrical glass tubes were supported and the oxygen was warmed by a water-jacket, arranged to serve the additional purpose of

forming an efficient protection for the glass. Any proportion of oxygenated ether or chloroform, either alone or together, could be administered, or pure oxygen alone if desired. The administration is on the plenum principle; the presence of oxygen causes very quiet respiration and a good pulse, and a profound narcosis can be maintained with safety; there are also no blueness and no mucus.

Mr. J. F. DOBSON showed a specimen from a patient upon whom anterior gastro-enterostomy and entero-enterostomy for a large Saddle Ulcer on the Lesser Curvature of the Stomach had been performed seven months previously. The patient gained 2 stones in weight and was free from pain for a month after the operation. She then began to complain of severe pain after food. Eventually the obdomen was reopened and a perforating ulcer adherent to the abdominal wall was found in the jejunum just below the gastro-enterostomy opening. The gastric ulcer had healed, leaving a scar which produced a marked hour glass contraction of the stomach. The greater part of the stomach was excised (including the gastro-enterostomy opening and the scar of the ulcer), and the efferent and afferent loops of bowel. The continuity of the stomach and small intestine was restored, the patient making a good recovery.

Dr. C. OLDFIELD showed a series of specimens to illustrate the advantages of removing the body of the uterus, together with the appendages, in cases where the latter had to be removed for gross disease. The specimens were: two of Double Pyosalpinx, two of Bilateral Tuberculous Salpingo-oöphoritis, one of Malignant Disease of the Ovary with Dual Primary Growth in the Uterus, and one of Bilateral Ovarian Cyst. The immediate and remote results were better than when the uterus was left, and this fact was now becoming generally recognised by gynæcological surgeons.

Mr. J. STEWART showed three cases treated by "606." 1. A male, aged 34 years. Intense headaches, Jacksonian epilepsy of the right side of the face, ten days later paresis of right arm and hand. Retention of the urine ensued on three occasions; optic neuritis. Potassium iodide was of no effect. "606" was administered three weeks ago. The patient was slowly but perceptibly improving. 2. Ulceration of the right side of the face and anterior triangle of the neck with fistula of Stenson's duct of three years' duration, during which time the patient was on antisyphilitic remedies. "606" was given 27 days ago, and the ulceration had almost healed. The fistula was not closed. 3. Inveterate ulceration of the tongue, throat, lips, and cheek, which had resisted mercury, potassium iodide, arsenic, and Littmann's decoction. The ulceration cleared up in three days.

Dr. BEDFORD PIERCE showed, with skiagrams, a Lead Pencil removed from the Duodenum by Mr. H. Littlewood.

Dr. A. BRONNER showed several instruments for the Suction Treatment of various diseases of the ear and nose. By this method in cases of acute purulent affections of the the middle ear or accessory nasal cavities the pus could be removed, the swollen membrane reduced, and drainage of the cavities improved. In some cases of otosclerosis the hearing was improved and the tinnitus lessened.

Cases and specimens were also shown by Dr. A. G. BARRS, Mr. R. LAWFORD KNAGGS, Mr. G. CONSTABLE HAYES, Dr. T. WARDROP GRIFFITH, Mr. B. G. A. MOYNIHAN, Dr. M. COPLANS, Mr. MICHAEL A. TEALE, and Dr. W. H. MAXWELL TELLING.

MEDICAL SOCIETY OF LIVERPOOL.

Election of Office Bearers and Members of Council.

AT the annual meeting of this society held on Jan. 19th the following list of office-bearers and members of council was adopted:—President: Dr. T. R. Bradshaw. Vice-presidents: Dr. J. E. McDougall, Mr. G. P. Newbolt, Dr. C. S. Sherrington, and Dr. W. B. Paterson. Treasurer: Dr. J. Lloyd Roberts. General secretary: Dr. Thomas Bushby. Secretary of ordinary meetings: Dr. W. B. Warrington. Secretary of pathological meetings: Dr. Ernest E. Glynn. Librarian: Dr. J. C. M. Given. Editor of the Journal: Dr. John Hay. Council: Dr. T. H. Bickerton, Dr. Richard Humphreys, Dr. Herbert R. Hurter, Mr. T. C. Litler Jones, Dr. John Owen, Dr. Joseph Unsworth, Dr. R. W. MacKenna, Mr. C. V. Vereker, Dr. Owen T. Williams, Dr. Robert E. Kelly, Mr. Arthur J. Evans, and Mr. J. E. O'Sullivan. Auditors: Mr. T. C. Litler Jones and Dr. Stanley A. Gill.

Tumours of the Adrenal Glands.—Methods of Localisation of Foreign Bodies by the X Rays.

A meeting was held on Jan. 28th, Dr. J. E. MCDOUGALL, Vice-President, being in the chair.

Mr. R. C. DUN and Dr. ERNEST E. GLYNN communicated a paper on Tumours of the Adrenal Glands, with especial reference to those occurring in children. Mr. Dun first described the features of a case in which the patient was a girl, aged 5 years, of precocious development. The body was covered largely with fat, and hair was copious in several parts—viz., over the scalp, the pubis, and in the axillæ. A large tumour was present in the right flank having the characteristics of a renal tumour. The child died in a few days from bronchopneumonia. A complete post-mortem examination was made by Dr. Glynn, which showed that the tumour was certainly one of the adrenal body; the kidney was found to be free, but was embedded on the under surface of the tumour. Mr Dun and Dr. Glynn then considered the previous 16 cases already published and compared their own case with them. They gave the following classification:—*Group A* (from cortex).—Malignant hypernephroma associated with great precocity in children of both sexes or great muscular development with true sexual precocity in males. *Group B* (? from cortex or medulla).—Round-celled sarcoma: (1) Hutchinson's type with metastases in the skull; and (2) Pepper's congenital type with tumours in the liver. *Group C*, unclassified. Primary tumours in adults were, they said, less easy to classify, but malignant hypernephroma in the adult female might produce secondary male characteristics. Precocity in children was sometimes associated with tumours in other glands.—Dr. W. BLAIR BELL said that it was important to remember the inter-relation of the various ductless glands. The secretions of the ovary and thyroid were antagonistic to those elaborated by the infundibular portion of the pituitary and the medulla of the adrenals. This was shown by the effect upon blood pressure and upon the calcium metabolism. He asked how far variation in function was accompanied by change in structure of the gland itself or how far structural change was really due to alteration in the activity of some other of the glands? Hence, instead of removing a hypothetically over-active ovary in osteomalacia, as had been done in the past, adrenalin was now given with success to antagonise the over-active ovary. Perhaps infundibular extract would have the same effect. He pointed out that in some cases, as in that just related, it was only the secondary characteristics of puberty that were developed; in others there was actual precocious sexual activity. He thought that in the latter cases there was a coincident reaction in the specific genital glands. He had long urged that the specific glands were not alone responsible for the genital activity, but that many of the ductless glands participated in the process. They had now evidence that this was so.

Dr. W. C. ORAM read a paper on the Methods of Localisation of Foreign Bodies by the X Rays. A radiogram was shown of a needle two inches in length completely embedded in the tongue of a child aged 4 years. Diagrams were exhibited illustrating the process of localising a bullet in the hip by a screen examination. Various methods of localising a needle in the hand were described and their accuracy and limitations discussed, and a process described by which when two stereoscopic negatives were used, together with a prepared curve connecting the shift of the shadow of the needle with its depth in the tissues, the distance of the needle from the surface could be estimated to the tenth of an inch.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Cases Illustrating the Operation of Pubiotomy (with Skiagrams).—Treatment of Eclampsia.

A MEETING of this section was held on Jan. 6th, Dr. HENRY JELLETT, the President, being in the chair.

Dr. E. HASTINGS TWEEDY exhibited six of nine cases of Pubiotomy. The three patients not shown differed in no way from those present. The most recent operation had

been performed eight weeks previously, while four years had elapsed since the first. All the patients walked without discomfort or limping and had made uneventful recoveries.—The PRESIDENT said that he had performed the operation at the Rotunda Hospital without having seen it done, and had found it so easy that others should find no difficulty. Mr. Hayes's skiagrams showed clearly the conditions of the bones.—Mr. M. R. J. HAYES said that a negative showed detail more clearly than a reproduction would do. In the first case the line of incision through the body of the left pubic bone could be traced in the skiagram. There was bony union. In the President's case the line of incision, obliquely downwards and inwards, was also well marked. The patient was able to walk, although as yet there was no union. In the third case there was three-quarters of an inch separation between the fragments, with fibrous union. The fourth case had a symphysiotomy, the pubic articulation being indistinct, apparently from callus formation. The separation between adjacent portions of the pubis was more marked below than at the upper margin. The fifth case was one of pubiotomy and symphysiotomy, the pubic articulation being indistinct here, also apparently from callus formation. The line of pubic incision was vertical and the separated portion was in three fragments, suggesting a comminuted fracture. In the sixth case the incision ran downwards and inwards. The upper and inner fragment had been cut off, and there was fibrous union. The case was almost a symphysiotomy. In the seventh case the line of incision could not be traced; there was no doubt as to the bony union. In the last case the incision ran through the lower ramus of the left pubic bone. There was bony union.—Professor ALFRED J. SMITH thought that Dr. Tweedy's arguments and Mr. Hayes's skiagrams had made out a strong case. One case of bony union with a subsequent normal delivery was very interesting; in this case there was no evidence of increase in size of the pelvis. He would certainly stand by Dr. Tweedy in opposing English opponents of pubiotomy.—Sir WILLIAM SMYLY said that the operation recommended itself strongly to him, and he thought it superior to symphysiotomy. In some cases one was limited to either pubiotomy or extraperitoneal Cæsarean section. It was instructive to see how well the women walked.—Dr. GIBBON FITZGIBBON remembered one of Dr. Tweedy's cases, a symphysiotomy being done. The woman had since had three children. The second and third, one of whom weighed 9 pounds, were delivered naturally, but in the fourth pregnancy an extraperitoneal Cæsarean section had to be done. He asked if the skiagram showed anything to account for this, such as callus formation. The interval between the symphysiotomy and the Cæsarean section was four or five years.—Dr. A. N. HOLMES said that Dr. Tweedy's splendid series completely proved that pubiotomy would stay as a definite operation in midwifery. There was doubt whether bony union was better than fibrous as regarded future delivery.—Dr. T. NEILL had delivered one woman, the subject of a previous pubiotomy, of two subsequent healthy living children by induction of premature labour.—Dr. TWEEDY, in replying, said that the operation was not only successful, but it was the easiest operation one could perform, and any well-informed modern general practitioner who could attend a midwifery case in a proper manner was competent to perform it. The trouble that had followed on it in other cases was due, not to the pubiotomy, but to tearing of the cervix or vagina. The ordinary operations undertaken by the general practitioner were more difficult than pubiotomy.—The PRESIDENT, in replying, said that while the subcutaneous operation might be preferable, he was doubtful as to the advantages gained in using a sharp needle. In view of his want of experience he had not performed Bumm's operation, but had made an incision large enough to admit his finger.

Dr. KATHARINE M. N. MAGUIRE read a paper on a case of Cæsarean Section for Eclampsia.

Sir WILLIAM SMYLY read a paper on the Treatment of Eclampsia.—Professor SMITH warned his hearers not to think that eclampsia occurred only before delivery; a large percentage of cases occurred afterwards, and he had seen a case occur six days afterwards in a patient who had had a perfectly natural confinement, but whose typical scanty urine a few days later was loaded with albumin. Yet that patient was being cared for by excellent practitioners who followed the rules of treatment regarding fluids and diets. She had had no trouble in four previous deliveries. The source of the active cause of eclampsia had not yet been discovered and there were probably many causes. A run of cases at the Rotunda had all got well under the standard treatment by potassium bromide with chloral or chloroform, but later they had had a run of bad cases on which this treatment had no effect. The object should be to discover the origin of eclampsia and standardise the treatment.—Mr. A. J. HORNE quite agreed that cases occurred in cycles, and got well under a particular treatment that failed in other cycles. He instanced a case of a five and a half months' pregnancy in which convulsions occurred, and amaurosis lasting three months followed. Convulsions recurred at the confinement. He said that convulsions after labour were comparatively rare. He had adopted Dr. Tweedy's treatment of morphia, rectal injections, and mammary injections, and he believed in large doses of morphia.—Dr. TWEEDY believed that the food eaten was the primary factor in the disease, but other predisposing factors were at work—e.g., insufficient fluid intake into the system. No death had occurred in the last 30 eclampsias, covering three years, at the Rotunda. When the disease had once developed even milk sometimes initiated the convulsions, and he had evidence suggesting that an anaphylactic condition in respect to food was established. Absolute starvation was the treatment. If the fits recurred repeatedly the patient was turned on to the right side, to allow the outflow of mucus from the mouth. If the patient got blue she was turned over face downwards, and a flow of mucus followed by a gasp for breath ensued. For fear of "laking" of the blood he substituted bicarbonate of soda for sodium chloride (as used for years in diabetic coma), half a drachm in a pint of water for mammary injections. Repeated bowel lavage until action occurred and saturation of the system with morphia were practised. In his fatal cases death always took place a considerable time, from 5 to 45 hours, after labour. As long as milk was given the patient was not treated successfully, because she was saturated with some poison and needed absolute rest. If a woman was about to die, he performed Cæsarean section, abdominal before labour, but vaginal during it, for the preparation for the former was very long and deleterious. Chloroform was a deadly drug in hepatic inefficiency, and ether had its dangers. Delivery through the vagina could be done without a general anæsthetic.—Dr. W. M. CROFTON criticised Dr. Tweedy's remarks about the ingestion of milk. In the nephritis of pregnancy there was high blood pressure, and the administration of nitrites caused disappearance of albumin, and there was no eclampsia when labour came on. He wished to know from Sir William Smyly whether there was much bleeding in his cases at the time that eclampsia came on, because it had been noted that the fits stopped at once on a large bleeding. The bleeding should be continued until blood pressure became normal.—Mr. J. S. SHEILL said that though there was no reasonable doubt that Dr. Maguire's case was one of eclampsia, still there was a possibility that it might have been uræmia or cerebral hæmorrhage. He cited a case in point. He agreed that it was desirable to use more morphia and scopolamine. He did not consider Dr. Tweedy's milk theory proved.—Dr. R. D. PUREFOY said that for many years free venesection was the regular treatment in Dublin for eclampsia, and many recoveries took place. He thought it valuable in the early stages. The argument against the emptying of the uterus was that the convulsions did not always cease after it had been done.—Dr. NEILL referred to the present tendency against giving milk in enteric fever, and asked if whey would be better; to which Dr. TWEEDY replied that fits had come on after whey.—Dr. FITZGIBBON said that an analysis of the cases in Sinclair and Johnston's "Midwifery" showed that the results seemed better when purgation and venesection were practised than when venesection was practised alone. He mentioned a case comparable to that cited by Mr. Sheill, and suggested that violent eclamptic fits had brought on hæmorrhage.—The PRESIDENT held that it was futile to look for one cause to explain all cases of eclampsia. To search for the origin of eclampsia was like searching for the origin of the Nile, which came out of a lake, which in turn was fed by a number of rivers. He thought there was great obscurity about the origin of eclampsia. He suggested in reference to Dr. Tweedy's large number of cases that perhaps some of them could not properly be classified as eclampsia.—Dr. TWEEDY defined eclampsia and said that no cases were

included which did not comply therewith.—Sir WILLIAM SMYLY and Dr. MAGUIRE replied.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A clinical afternoon meeting of this society was held on Jan. 18th, Mr. W. Morley Willis, the President, being in the chair.—The following cases and specimens were shown:—Dr. C. H. Cattle: 1. A man, aged 53, with Argyll-Robertson Pupils, loss of knee-jerks, but had not had "lightning pains." He complained of some weakness and coldness in the feet. Six months ago he said he was very anæmic, but anæmia was no longer evident. 2. A woman, aged 37, suffering from Tabes, which was ten times more common in men than women. 3. A youth, aged 19, who had Weakness of the Legs, Exaggerated Knee-jerks, and Tremor of the Lips and Tongue, causing difficulty of speech. He attributed his illness to "a fall" five months ago. His cerebro-spinal fluid showed excess of lymphocytes and gave the Wassermann reaction. Suggested diagnosis: commencing general paralysis of the insane (juvenile form).—Dr. J. W. Scott: Child with Transposition of the Viscera.—Dr. W. T. Rowe and Mr. C. H. Allen: A patient after operation for Suppurating Hydatid of the Liver.—Mr. Kenneth Black: 1. A rare case of Rupture of the Small Intestine and Laceration of the Left Kidney. Operation; recovery. Subsequent formation of two large calculi in the damaged kidney; nephrolithotomy; recovery. Since the last operation further calculi had formed in the same kidney. 2. A case of Gangrenous Meckel's Diverticulum in a strangulated hernial sac. Excision of diverticulum; radical cure of the strangulated hernia; recovery. 3. A case of Otitis Media with Acute Mastoid Abscess and complicated by subdural abscess in the middle fossa of the skull and a similar abscess in the posterior fossa of the skull. Operation; recovery. Specimens: X ray photographs of: (*a*) Polyarthritis Deformans of the Hand. (*b*) Ununited Fracture of the Lower End of the Humerus; advisability of excision of the elbow-joint. (*c*) Pott's Fracture—27 years old. (*d*) Gonorrhœal Arthritis of the Shoulder-joint.—Mr. E. Bigg: A boy with an old Tubercular Knee, who had been treated by a bone-setter three years ago, when the right knee was flexed to a right angle and fixed in bony ankylosis. Left knee also flexed in compensation to nearly the same extent. He presented the appearance of a dwarf, and was incapable of earning his living. Mr. Arbuthnot Lane operated on the right knee two years ago, and made a diagonal saw-cut through the ankylosed joint securing the present position of the joint. The result was displacement of the lower part of the leg outwards, but with a minimum of shortening. The boy could now ride a bicycle and was employed as a mounted telegraph messenger.—Mr. A. R. Tweedie: A child, aged 4 years, showing repair after Acute Septic Periostitis and Necrosis of some three inches of the shaft of the femur. Specimens: (*a*) Sequestrum representing posterior wall of the External Auditory Meatus and Outer Wall of Antrum, illustrating Nature's attempt at the radical mastoid operation; (*b*) specimens of Tonsils removed by enucleation; and (*c*) sections of the Lingual Prolongation of the Tonsil.—Dr. J. Watson: 1. A married woman, aged 43. Choledocholithotomy on April 17th, 1910, for history of 20 years' "indigestion pain" and gall-stone attacks. No vestige of gall-bladder found. Stones in dilated bile duct and hepatic duct. 2. Carcinoma occupying left axillary border with glands in armpit. Tumour with pectoral muscles and axillary contents removed April 23rd, 1907. 3. Cancer of Right Breast; axillary side freely moveable. Breast tumour removed Dec. 2nd, 1907, and four days later muscles and fat from axilla. 4. Carcinoma of Left Breast with Glands in Armpit. Breast, pectoral muscles, and axillary fat removed November, 1910.—Dr. O. H. Isard and Dr. F. H. Jacob showed a specimen of Congenital Hypertrophic Stenosis of the Pylorus in a child aged 3 months. When the child was a month old vomiting commenced. There was usually only one large vomit per day, and occasionally there were two. Vomit was sour and curdy. Bowels were constipated. There had been marked wasting. Breast-fed for five weeks. Different kinds of foods had been tried since, but none were satisfactory.—Dr. Jacob showed a probable case of Congenital Heart Trouble in a boy aged 4 years. Loud systolic murmur was heard at base of heart, not at the apex, also in both axillæ and all over the back. Murmur was loudest in right axilla on lying down; loudest at angle of left scapula on sitting up. Pulse 92, irregular, and very feeble. Liver edge felt one finger's breadth below costal margin. Child appeared to be quite well.—Dr. Jacob and Mr. Tweedie showed for diagnosis a patient with a swelling which commenced on the right side of the chest last August and had grown rapidly lately. It was painful only when touched. It extended over the anterior portion of the chest, from the clavicle to the level of the diaphragm and from mid-axilla to mid-axilla; the skin was of an unusual colour, and in the upper part resembled a raw beef-steak, showing minute telangiectases; in the lower portion it was yellowish-blue like a dying bruise. The colour could be only partially removed by pressure. The upper portion was finely papular to the touch, was indurated and thickened, and did not move so freely on the chest bones as was normal.—Dr. Jacob showed a case of Idiopathic Muscular Atrophy in a boy, aged 9 years, who had been noticed to walk badly for some years, and had never walked quite properly. He now presented the typical lordosis and "climbing up his own legs" of the pseudo-hypertrophic form, but did not show the pseudo-hypertrophy or the weakness of the shoulder muscles; weakness of the orbicularis palpebrarum and other face muscles was, however, present.—Dr. E. Ringrose and Dr. Jacob showed a case of Sulph-hæmoglobinæmia. The patient had been blue, short of breath, and subject to severe headaches for some ten years. The spleen was enlarged and could be felt about two inches below the costal margin. The blood showed the spectrum of sulph-hæmoglobinæmia, which was very like that of methæmoglobinæmia, but the bands were in a slightly different position and were not removed by ammonium sulphide as were those of methæmoglobinæmia.

MANCHESTER PATHOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 18th, Mr. J. W. Smith, the Vice-President, being in the chair.—Dr. W. Dyson gave an account of his Researches on Skin Pigmentation. He showed by means of the bichromate-hæmatoxylin method of Lorrain Smith and Mair that pigment is always formed as part of a complex granule which contains a lipoid substance. These granules are present constantly in the basal epithelial cells, and are formed there under the influence of the nucleus as a part of the normal metabolism of the cell. The pigment is in origin a lipochrome, the melanin being the chromatic proteid portion after separation from the complex lipoid granule. He found no evidence of pigment formation in the cutis, but showed sections which illustrated the passage of lipoid substances from the epidermis into the cutis along lymphatic channels. An increase of pigment can take place in two ways: 1 By the stimulation to increased activity of the epidermal cells by various agents (light, heat, toxæmic conditions, &c.). This pigmentation is transitory in character, and if the stimulus ceases the pigment gradually disappears. 2. By deficient drainage, due to obstruction of the lymphatics of the cutis. The normal amount of pigment being formed, it is unable to escape as quickly as it is elaborated, and therefore accumulates. This form of pigmentation is permanent and has a tendency to become progressively worse.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 17th, Dr. W. Mitchell, the President, being in the chair.—Dr. James Metcalfe read a paper on Electricity in Neurasthenia. He wished to bring before the society the uses of high-frequency currents, or D'Arsonvalisation, and static electricity in the treatment of neurasthenia. The symptoms of neurasthenia were described at some length under the headings of general and local. A description of the apparatus used, with diagrams, was given, and their mode of application was considered. Where the neurasthenia was associated with marked metabolic deficiency, or of the gastro-intestinal type, high-frequency currents were usually the most effective. But if the symptoms pointed more to a condition of a pure neurosis, static electricity acted best. The ordinary methods of treating neurasthenic patients were not considered, as the cases given had all been subjected to the usual forms of treatment by the medical practitioner who referred them for special treatment. Numerous cases were given of both men and women who had suffered from neurasthenia for long periods. The irritability, depression, insomnia, pains, and various other symptoms disappeared after from 12 to 20 applications of the

electrical currents. It was not to be assumed that electricity cured every case of neurasthenia, but it was well to remember that in cases where every other remedy failed there was a possibility of cure by these methods. The question was considered as to how these currents produced the therapeutical effect. Several of the cases on examination by a Riva-Rocci sphygmomanometer showed a high blood-pressure, and it was observed that the application of the currents caused a reduction of the tension and, *pari passu*, an improvement in the disease. Nearly all the cases treated had been permanently cured. Probably the effect was produced by stimulating general metabolism, and in this way effecting the elimination of toxic agents, or by a direct vaso-motor action on the vessel walls themselves. Possibly the inhalation of ozone generated by these machines had some influence in improving the patient's condition. Psychic influence was no more common in this form of treatment than by the use of ordinary remedies. D'Arsonval and others had been able to demonstrate increased tissue changes, more rapid reduction of the oxyhæmoglobin in the blood, and increased elimination of waste products in the urine. There was also a profound action on the protoplasm of cells everywhere, increasing their chemical changes.—The paper was discussed by the President, Dr. S. Lodge, Dr. F. W. Eurich, and Dr. A. Bronner.—Dr. Metcalfe then replied.

HARVEIAN SOCIETY OF LONDON.—A clinical meeting of this society was held on Jan. 26th at the Paddington Green Children's Hospital, Mr. J. Ernest Lane, the President, being in the chair.—The following cases were shown by the President and members of the hospital staff and others:—Dr. Leonard G. Guthrie: Case of Hydrocephalus.—Dr. Guthrie and Mr. M. S. Mayou: Case of Pseudo-glioma.—Dr. G. A. Sutherland: Cases of (1) Cerebellar Disease; and (2) Fibroid Phthisis.—Dr. Frederick Langmead: Cases of (1) Urticaria Pigmentosa; (2) Congenital Heart Disease; and (3) Myositis Fibrosa and Sclerodermia in an infant.—Dr. Reginald H. Miller: Cases of (1) Raynaud's Disease; and (2) Polio-encephalitis.—Mr. A. Edmunds: Cases of (1) Hypospadias; and (2) Cyst of the Humerus.—Dr. G. de B. Turtle: Case of Pyloric Spasm.—The President: Two cases of Syphilis treated by "606."

Reviews and Notices of Books.

A Text-book of Zoology. By T. JEFFREY PARKER, D.Sc., F.R.S., and WILLIAM A. HASWELL, M.A., D.Sc., F.R.S. In two volumes. London: Macmillan and Co. Vol. I., 839 pp.; Vol. II., 728 pp. Price 36*s.* net.

THERE are nowadays so many text books of zoology that to have arrived at a second edition is somewhat of a triumph, and is at least a handsome testimonial on the part of the scientific public. Among such text-books of zoology, which have evidently established for themselves a firm place in the literature of biology, Parker and Haswell's work occupies by no means an obscure situation. Not only is it dependable by reason of its accuracy, but it is unlike many other contemporary works which cover the same, or about the same, ground. The plan of the present work (which has not departed in this from the first edition) is to preface the accounts of the various groups of animals with a more or less detailed *résumé* of the anatomy of one particular example selected for various considerations as representative of that group. The authors are well advised, in our opinion, to drop the misused, or at any rate somewhat misunderstood, word "type" describing the particular animals which they select to represent the main groups of the animal world. The word "type" implies more than is commonly in the mind of those who make use of this term. "Example" is a far more expressive way of putting the idea suggested. The authors acknowledge their indebtedness for this emendation to Dr. Hill, lately Master of Downing College, Cambridge, and rightly assert that the student is apt to take the structure of the type for that of the group of which it is only an example, and, maybe, even a specialised and thus not typical example.

It is occasionally the practice of reviewers to seek for what is not contained in a book, rather than to express an opinion as to what the author has judged suitable and necessary for insertion. In a work dealing with so colossal a subject as is zoology at the present day, it would be the easiest of criticisms to point out the absence of this fact and of that, of one genus or of another. In fact, within reasonable limits—and two volumes containing between them nearly 1600 pages cannot be fairly considered as unduly short—it is not even within a distant approach of possibility to abstract the whole of the facts of zoology.

Nor has this science stood still during the 12 years since the publication of the first edition. Thus the problem which had to be faced by the author of the second edition (for it is now some years since the death of that very talented anatomist Jeffrey Parker) was by no means how to fill two volumes with the facts and chief inferences of zoology, but what might be safely omitted. Dr. Haswell, keeping to the original plan, has saved space by dealing very briefly with the smaller subdivisions of the larger classes, and by not burdening the student with a long series of names and definitions of the characters of the members of these smaller subdivisions. In fact, the book is essentially for the commencing student and not for the student who has already begun to specialise. In making this statement, however, it must not be supposed that Dr. Haswell has limited his survey to the well-known and often-trodden paths of zoology. He has introduced a great number of more recent researches such as have appeared since the publication of the first edition, while not neglecting the more familiar facts known to us for many years past. Thus, there is a figure of that remarkable crustacean, Paranaspides lacustris, from Tasmania, lately discovered and studied by Mr. Geoffrey Smith of New College, Oxford, an animal which is nearly related to certain very old fossils, and serves to link together more specialised groups of crustacea by its "generalised" characters. Place is also found for the very interesting and probably very important views of Dr. Goodrich of Merton College upon the relations between the true nephridia and the "cœlomo-ducts" in Annelids, and indeed in animals generally. Other examples might be mentioned which prove that the author has kept a critical eye upon the progress of zoological research, and not only in those groups in which he himself is particularly interested and to our knowledge of which he has contributed.

The vertebrata, together with certain primitive and allied forms such as the Ascidians, occupy an entire volume to themselves. For practical purposes this is necessary, since in every way the vertebrata bulk more largely than does any other great group of the animal kingdom; but on more theoretical grounds, for the range of structural variation in this group is not so great as in such a group as the Echinoderma or the Annelids (in a broad sense), one might criticise the undue importance thus given. However, as already remarked, it is impossible to include everything in a text-book of finite dimensions and if one group is to receive more generous treatment than another that group should be, and as we think from every point of view, the group of the vertebrated animals. A feature of this text-book, as compared with some others, is the large number of illustrations of the external form of vertebrated animals, particularly of mammals; and we note that a good many of the excellent drawings by Mr. Dixon, which adorn that volume of the "Cambridge Natural History" which deals with mammals, are utilised by Dr. Haswell for his present purpose. Writing from the Antipodes, and partly, no doubt, with the interests of Antipodean students in his mind, it is not surprising that Dr. Haswell

should dwell wherever possible upon the zoology of Australasia. It is curious, therefore, to observe that among the very few errors which we have noticed in looking into this work is a decided lapse with regard to the Australian ant-eater, Echidna. One of the rather long series of structural facts which almost seem to justify the placing of this creature together with the Ornithorhynchus in a group equivalent to that which should include the rest of the mammalia, concerns the structure of the heart. It has been shown by more than one observer that the right auriculo-ventricular valve in Echidna is not only an incomplete valve surrounding little more than half of the aperture, but that it is largely muscular and not membranous in character. But we find on p. 575 of Vol. II. the statement that "In Echidna the tricuspid valve is completely membranous." This is, however, possibly a misprint, or *lapsus calami*, for bicuspid, in which case the peculiar characteristics of the right heart valve are not mentioned.

Nor can we quite agree with the definition of the order Squamata, including the lizards and snakes, as characterised (*inter alia*) by the possession of lungs which are simple sacs. This is undoubtedly true of the majority, but the statement does not at all apply to the monitor lizards, which are so different in many particulars from other lizards, and in which Reptilia the lungs are quite as complicated by a sub-division of their cavity as they are in a crocodile or a tortoise. It is very remarkable to find amongst the monitors, which are unquestionably lizards, certain structural likenesses to the Crocodilia; these may perhaps be correlated with their at least occasionally aquatic life.

While presenting the reader in the main with the facts of zoology, the author does not neglect the more theoretical aspects of biology, and in this respect there is no change made from the first edition. The section of the work which deals with such problems is, however, commendably short, as the beginner ought to be sternly kept to facts until he is in a position to utilise this knowledge for the consideration of hypotheses. We are glad to see that in the pages which deal with "The Philosophy of Zoology" the question of "Orthogenesis" is not ignored. The American palæontologists more particularly have dwelt upon the fixed and, so to speak, "pre-arranged" lines upon which evolution has proceeded in certain cases. Thus quite independently of useful modifications (we are disposed to think), the horse tribe have persistently followed, from the Eocene down to the present day, a continuous reduction and ultimate shedding of the fingers and toes, resulting in the one-toed horse of recent and modern times. Dr. Haswell does not indicate that he holds any brief for any specified view—an attitude which is to be praised in a teacher whose business it is to present the facts and inferences to his pupils and not to direct their conclusions. Finally, we may call attention to the bibliography which closes the second volume. This is a well-selected list of general works, and no special monographs or memoirs in journals or the publications of societies are referred to.

Considering the enormous mass of zoological fact and literature available to the author, it is quite wonderful what a great deal has been found room for in these two most useful volumes.

Urinary Surgery: A Review. By FRANK KIDD, M.B., B.C. Cantab., F.R.C.S. Eng., Assistant Surgeon to the London Hospital. London: Longmans, Green, and Co. 1910. Pp. 429. Price 7*s.* 6*d.* net.

MANY medical men, especially if they have not qualified within recent years, are quite unaware of the enormous progress that has been made in the surgery of the urinary organs, and Mr. Kidd has written this book for the purpose of drawing attention to the very great advances both in diagnosis and treatment which have been recently achieved. The progress made during the last ten years may be divided into four categories. In the first place, catheterisation of the ureters is a much simpler matter now than it was ten years ago; and, further, we are able at the present day to form a very accurate estimate of the physiological power of each kidney, so that the danger hardly now exists of removing the better kidney of the two. The development in the bacteriology of the urine and of the urinary tract has added greatly to our knowledge of infections of this system, and has enabled us to do more in treatment. The introduction of the X rays for the detection of calculi in the kidney, the ureter, and the bladder has added enormously to the diagnostic powers of the surgeon. Lastly, the great development of the surgery of the prostate has placed in our hands a wonderful influence for good in cases which were, at one time, most difficult to treat. All these, and many more, aspects of the modern urological surgery will be found described in this book. Its arrangement is excellent and it is easy to read.

Cunningham's Manual of Practical Anatomy. By the late D. J. CUNNINGHAM, M.D. Edin. et Dub., D.Sc., LL.D. St. And. et Glasg., D.C.L. Oxon., F.R.S., late Professor of Anatomy in the University of Edinburgh. Fourth edition. Revised by ARTHUR ROBINSON, Professor of Anatomy in the University of Edinburgh. In two volumes. Vol. I.: 624 pp. and 237 illustrations; Vol. II.: 600 pp. and 236 illustrations. London: Henry Frowde and Hodder and Stoughton. 1910. Price 10*s.* 6*d.* net per volume.

THIS work has so long enjoyed a wide and well deserved popularity that its general merits do not fall to-day within the scope of an ordinary review. The appearance of four editions, each of which has marked a distinct advance on its forerunners, is, in itself, a guarantee that Cunningham's Manual provides the student with a guide to the dissection of the human body which admirably fulfils its purpose. Indeed, there appears to be a tendency on the part of the student to regard "little Cunningham" as a text-book, as well as a dissecting manual. The amount of accurate information contained within its 1200 pages would almost seem to justify this view, and concerning all those structures which may be fully examined in an ordinary dissecting-room subject the student will need to do a minimum amount of additional text-book reading, if he studiously follows the manual in his actual practical work. During the life of its author—the late Professor D. J. Cunningham—four editions of the work appeared, and the advances marked by these four successive issues are very remarkable, for the first edition was an ancestor of very modest appearance. Professor Arthur Robinson, the successor to Professor Cunningham in the historic chair of anatomy in Edinburgh, is responsible for the present volumes, and he has been assisted in the work of revision, as was Professor Cunningham, by Dr. E. B. Jamieson, lecturer in anatomy at the University.

This present issue, although described as merely a revision of the fourth edition, contains sufficient new features to justify a critical review of the alterations which have been made. Perhaps the greatest innovation is the tardy introduction of the B.N.A. terminology, of which a glossary is given at the beginning of each volume. In the present unsatisfactory transition stage of the nomenclature used by British anatomists, it cannot, perhaps, be expected that the book should have naturally dropped into the new ways all at once; but it is to be hoped that every future edition of the manual will help to stereotype the universal nomenclature in the leading British dissecting guide.

Some new illustrations have been added, and some of the old ones, which were plain black and white in former editions, have been coloured in the present issue. It is possible that different copies vary in the excellence of the

colour reproductions, but in those which the reviewer has examined the printing of some of the more highly coloured figures does not seem to be quite satisfactory, for in some cases in which colour has been added to an old black and white drawing there is a certain degree of overlap. A word must also be said with regard to some of the pointing lines used for naming the structures in certain illustrations. A method of dotting these lines has been adopted in some cases, and this cannot be considered as an improvement on the plain ruled line used in the older plates, for it is often very difficult to determine on what structure the pointing line actually stops. In practical use this state of affairs has proved, we know, a stumbling-block to students. In Vol. II. Fig. 78 (repeated as Fig. 83) is an example of this fault, for the pointers intended to indicate the internal carotid artery and the internal jugular vein both lead to other structures, while the pointer which rests on the ramus descendens hypoglossi remains unnamed. Fig. 81 (repeated as Fig. 91) has the same defect of uncertainty as to the termination of the index lines, and in Vol. I. Fig. 231 shows a wrong index to the sacral plexus, while in Fig. 212 the red index lines lead to confusion, especially in the case of the lower pointer to the levator ani muscle. These defects are easily remedied, and since demonstrators have on many occasions been questioned by students to whom they had caused some anxiety they are cited, not as a criticism of the work, but as a guide for the author in future revision.

The other marked changes introduced in this issue are mainly concerned with the pelvis and its manner of study, and Professor Robinson has done wisely to alter the route of dissection. Perhaps in some future edition there will be more sweeping changes in this portion of the book, for the pelvic fascia is capable of still further simplification in the light of a mass of modern work on the subject; and the inclusion of some description of the musculus recto-urethralis would constitute an added improvement, since the muscle has taken its place in English surgical literature. In some other respects the book might be modernised with advantage, and we are tempted to regret that Professor Robinson did not make the description of the testicle and its method of descent conform more to the requirements of modern research, especially since these things have been rendered familiar to English students by the work of Dr. D. Berry Hart in Edinburgh.

Professor Robinson is to be congratulated upon the appearance of these volumes, which mark the high-water level of Cunningham's Manual; and such criticism as we have levelled against them must be regarded merely as suggestive of improvements which will help to maintain the book in its well-deserved position as the premier dissector's guide for the student of human anatomy.

A Study of the After-results of Abdominal Operations on the Pelvic Organs, based on a Series of 1000 Consecutive Cases. By ARTHUR E. GILES, M.D., B.Sc. Lond., F.R.C.S. Edin., Surgeon to the Chelsea Hospital for Women. London: Baillière, Tindall, and Cox. 1910. Pp. 252. Price 10*s.* 6*d.*

As the author of this work points out, of late years recovery from an abdominal operation has become almost a matter of course, and how small the mortality may be is shown by his own figures giving a mortality of 6·6 per cent. for the first 500 cases and one of only 1·6 per cent. for the second 500. In these conditions the most important question at the present day is not the immediate mortality of such operations but the after-results to the patients. For the purpose of attempting to give an answer to this question Dr. Giles has collected as far as possible the results of his work, and this book contains these results and the conclusions he draws from them. Such an investigation when carried out by the operator himself is, of course, always open to the grave objection that he is by no means the best judge of the after-condition of his patients. The personal equation must enter into an inquiry of this kind; and the tendency to exaggerate the benefits gained, and to minimise the bad effects resulting, from any operative procedure must be so powerful as inevitably to vitiate to some extent the conclusions formed even by the most impartial of observers. For this reason we are inclined to lay much greater stress upon the after-histories of patients when they are recorded by some observer other than the surgeon himself. None the less, Dr. Giles deserves great credit for the labour he has expended and for all the time and trouble he has devoted to this task, and the results are certainly valuable even if we feel that we cannot accept all his conclusions without some slight amount of hesitation.

The first part of the book is concerned with the after-results of each operation considered in detail, and the second half contains in tabular form a complete record of the patients. As the book is a reprint of a series of articles which appeared in the *British Journal of Obstetrics and Gynæcology* no doubt most gynæcologists who are interested in these matters have already read its contents. If we look at the conclusions as to the general health of all patients after abdominal operations we find, according to Dr. Giles, that no less than 90 per cent. were better than they had been before the operation, and only 6 per cent. were either worse or at least no better.

The operation of hysteropexy appears to be a very favourite one with the author, since he has practised it no less than 309 times in his 1000 cases. In curious contrast to this frequency is the comparatively small number of times this operation figures in some of the records of the gynæcological departments of our large hospitals with medical schools attached, where it appears to meet with but scant favour.

Biology, General and Medical. By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology, Medico-Chirurgical College of Philadelphia. With 160 illustrations. London and Philadelphia: W. B. Saunders Company. 1910. Pp. 440. Price 7*s.* 6*d.* net.

THIS volume cannot fail to be of great interest to two classes of readers. The biological part provides an excellent and readable summary of the elements of biology for general readers who have had little or no special training in this science, while the more specialised medical aspects of the subject will afford to general practitioners of medicine a broad but accurate survey of various fields of new knowledge, such as immunity and senescence. Professor McFarland has undertaken a tremendous task in trying to condense into one volume such a large range of subjects, but his wide knowledge, both of general biology and of pathology, has enabled him to grapple with it in a most successful manner. After a historical sketch of the theories which have dealt with the origins of life in all ages, some 200 pages are devoted to a sketch of the manifestations of life in various plants and animals, the function of cells, the reproduction of cells and of individuals, and similar well-known biological phenomena. This section of the book might have been fuller, but it would have been impossible to make the picture complete, and the author has shown a wise discretion in his selection of illustrative functions. Several chapters follow dealing with the difficult subject of modern theories of descent, transmission of type, and heredity. The treatment of this matter is luminous and broad, in spite of the limited space at the writer's command. A short but lucid chapter on "blood-relationship," a term adopted from Nuttall, serves as an introduction to a study of infection and immunity, and is

one of the best bits of work in the book, which closes appropriately with a review of the work of Metchnikoff, Minot, and others on senescence and decay. In spite of the technical character of much of the subject-matter the style of writing is easy, simple, and direct, and there are very few Transatlantic peculiarities of diction. The printing is excellent, and the volume is light to hold, no small virtue in these days of loaded paper, while the illustrations are numerous and useful.

Le Cancer. Par le Docteur JOSEPH THOMAS, Docteur ès Sciences. Deuxième édition, revue et augmentée. Préface du Professeur ALBERT ROBIN, Membre de l'Académie de Médecine. Paris: A. Maloine. 1910. Pp. 376.

Dr. Thomas published in 1906 the first edition of his short history of cancer, and since that time a very large number of papers and volumes have appeared on the subject of cancer, some of which, even when of much importance, are likely to be missed by those interested in the study of this disease. It is of great value to have a volume in which the reader can be sure of finding a reference to most papers of importance on the subject. The book is very complete: in it will be found all the different theories which have been put forward to explain cancer, and an account of the pathological histology, the signs and symptoms of the disease, the question of contagion, and the treatment. The vast differences which exist in the frequency of the disease in different parts even of the same country are shown in a table taken from the thesis of Fabre. This demonstrates that while at Havre 71 persons die from cancer each year per 100,000 of the inhabitants, at Paris 104 die, at Saint Sylvestre 345 die, and at Oulchy 1400 persons die. Many similar facts of interest will be gleaned from this volume, and we commend it to all who are studying this important malady as a convenient manner of keeping before them an all-round survey of the subject.

Transactions of the Medico-Legal Society for the Year 1909–1910. Edited by DIGBY COTES-PREEDY, M.A., LL.M., L.S.A., Emmanuel College, Cambridge, of the Inner Temple and Oxford Circuit; Barrister-at-Law; and WILLIAM A. BREND, M.A., M.B., B.Sc. Lond., of the Inner Temple; Barrister-at-Law; Lecturer on Forensic Medicine, Charing Cross Hospital. Vol. VII. London: Published for the Society by Charles Griffin and Co., Limited. 1910. Pp. 186.

SINCE its foundation in 1901 the Medico-Legal Society has conducted many interesting discussions upon subjects of considerable public importance, some of which are not easy to ventilate satisfactorily in any gathering composed exclusively of medical men or of lawyers, or by any means not directly conducive to the friendly exchange of divergent opinions. The membership of the society now amounts to well over 200, and it is to be hoped that the loss which it has sustained by the death of Sir Joseph Walton, who was one of its vice-presidents, may be made up to it by the accession of some other member or members of the judicial bench. There are many judges whose presence at the meetings of the society would add very considerably to their interest and to the weight of the conclusions arrived at, and there are few judges who by attending might not gain an insight into the reasons which lie behind contradictions of medical evidence, into the difficulties which beset the scientific witness, and into defects in the law to which they, as judges, above all others have the power to call attention. We refer to such papers (among those in the present volume) as the Mutual Relations and Influence of Law and Medicine, the subject of a presidential address by Sir John Tweedy, and the Effects of Traumatism on the Nervous System by Dr. J. S. Risien Russell, out of both of which can be extracted valuable expressions of opinion with regard to the desirability of the provision of medical assessors in cases which obviously demand their presence.

The papers read before the society, however, do not deal by any means always with matters tending towards legal reform, but in many instances are useful monographs followed by discussion from two points of view upon topics not exclusively medical, or entirely legal, and of interest to members of both professions. Thus that of Dr. F. G. Crookshank, on the Examination of Bodies Found in the River, contains practical hints from an expert to his fellow practitioners combined with points which any legal member of the society might some day find useful in the conduct of cross-examination at a criminal trial; and another "On Ferro-Silicon, with Special Reference to the Poisonous Gases Liable to be Evolved Therefrom," by Mr. H. Wilson Hake, may be referred to as an interesting summary of the history of a poisonous substance the transport and storage of which caused an astonishing number of deaths before its dangerous qualities attracted official attention.

LIBRARY TABLE.

Surgical After-treatment: a Manual of the Conduct of Surgical Convalescence. By L. R. G. CRANDON, A.M., M.D., Assistant in Surgery at Harvard Medical School. With 265 original illustrations. London and Philadelphia: W. B. Saunders Company. Pp. 803. Price 25*s.* net.—The appearance within the last few years of several treatises on the after-treatment of surgical cases shows appreciation of the importance of this matter and recognition of the fact, which is only too often neglected, that with the completion of the operation the work of the surgeon has not ended. Another volume, therefore, on the same subject, while not perhaps absolutely needed, is at least an addition to a literature at present not overdone. Dr. Crandon's work is written on very sensible lines. He discusses first the details of the sick room, the recovery from anæsthesia and the treatment of its after-effects, the relief of thirst, of pain, and of insomnia. The various forms of post-operative hæmorrhage, of shock, and phlebitis are also considered; the diet after operation, rectal feeding, catheterisation, and various other post-operative complications and procedures are dealt with. The second part of the book concerns itself with operations on different parts of the body. The author recommends depilation by means of a depilatory paste in the preparation of a patient for operation, a method not sufficiently employed. It is much less disturbing than shaving is to the part, and it leaves the surface smooth, clean, and practically aseptic. The value of hot weak tea in diminishing the thirst after operation is not fully appreciated, and many nurses withhold it from their patients. It can often be retained when everything else is vomited. Many surgeons approve of its administration highly, and we are glad that Dr. Crandon has mentioned it in his work. The book contains much that will prove useful to the surgeon who is anxious to do the best he can for his patient, and we have formed a very favourable opinion of it.

Diet and the Maximum Duration of Life. By CHARLES REINHARDT, M.D. Brux. The London Publicity Company. Pp. 108. Price 1*s.* net. *The Food Reformer's Companion.* By EUSTACE MILES. London: Mills and Boon. Pp. 186. Price 2*s.* 6*d.* net.—Food reformers can be divided into two classes: those who base their desire for reform on the ground of humanity, and, like the conscientious Hindu, will eat nothing that involves the taking of sentient life, and those who are chiefly concerned, whether for altruistic or other reasons, in the maintenance of health. The fact that health is maintained by different nations on foods which

in their nature vary widely, to say nothing of the range in variety and quality of the foods used by the different strata of society in any one nation, proves that habit will enable man to live on almost anything. In the now almost forgotten treatise on temperance of Cornare, which was translated from the Italian by Master George Herbert, "of blessed memorie," the author sought to show that "intemperance was not such an evil but it might easily be remedied," the word intemperance, of course, being used in a wide sense. Dr. Reinhardt tells us that his book is not a sentimental work, nor a treatise on humanitarianism, but an effort to point out the nearest approach to the perfect way in diet; and the dual problem which he sets before himself of maintaining health and postponing the evils of old age resolves itself into the question of averting or preventing intestinal putrefaction. He discusses the various forms of diet, especially drawing attention to the evils of excessive meat eating, and arrives at the conclusion that strict frugality, thorough mastication, and the judicious employment of certain health-preserving foods, of which Bulgarian sour milk is the most notable, are the best means of attaining a healthy old age, Mr. Eustace Miles, who protests against being called a "vegetarian," since he eats fewer vegetables than most meat eaters, is also an advocate of thorough mastication, but the foods which he discusses have a less limited range than those of Dr. Reinhardt. Mr. Miles's book is a plea for what he calls a balanced non-flesh diet—that is, a diet without meat selected to suit individual idiosyncrasies. He appeals to various classes and various individuals and shows how meals, according to his system, can best be prepared by a man or woman living alone, or by the one non-flesh eater in a family, without serious inconvenience to other members of the household. The book contains some useful vegetarian recipes.

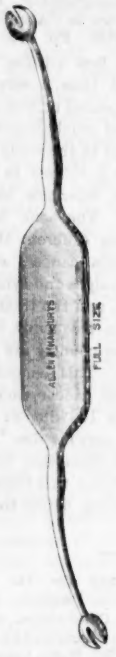
Lehrbuch der Augenheilkunde. By Various Authors. Edited by Dr. THEODOR AXENFELD, Professor of Ophthalmology in Freiburg. Jena: Gustav Fischer. 1910. Pp. 708 and 11 plates. Price, paper, 14 M.; board, 15 M.—Professor Axenfeld's text-book of Ophthalmology, which we reviewed in THE LANCET of March 27th, 1909, has already reached a second edition. The general structure of the work is maintained, the only notable changes being the sections on diseases of the lacrymal organs and on injuries and sympathetic ophthalmia, which were written by Professor O. Schirmer and now appear under the names of Professor Stock and Professor Hertel respectively. We had occasion in our review to point out the shortcomings of the ophthalmoscopic drawings. Many of the old ones are now transferred to the text, and the new set of plates is a very decided improvement.

Radiometrie Fluoroscopique. By Dr. H. GUILLEMINOT. Paris: G. Steinheil. 1910. Price 2 francs, 50 centimes.—This is a note on the author's method of fluoroscopic radiometry, based on the comparison of results when a platinocyanide screen is illuminated by the X rays and by a standard specimen of radium. Apart from the fact that a rather expensive specimen of radium is required for a standard, this method of radiometry is perhaps the best that has yet been devised. The standard consists of 20 milligrammes of radium bromide (activity 500,000) spread over a surface of 1·75 square centimetres on a copper disc and illuminates a screen placed at a distance of 2 centimetres. Dr. Guilleminot also describes a means by which specimens of radium for therapeutic purposes may be standardised and later used themselves as standards. He shows the advantages thus gained in radiography give much more uniform results and a great saving in time and plates. The third chapter is devoted to a study of the analysis of a polychromatic beam of the X rays as a basis of accurate treatment; and the final chapter is on the use of filters, which have done much to place radio-therapeutics on their present basis.

New Inventions.

COMEDO EXTRACTOR.

I HAVE had constructed for me by Messrs. Allen and Hanbury of Wigmore-street, London, W., a comedo extractor by means of which graduated pressure may be applied whilst the black head remains under observation. The instrument consists of a broad handle with a curved shank at each end terminating in a concavo-convex head with a V shaped neck or slot. The slots differ in size. The curved shank is so constructed that it adapts itself to all parts of the face. The shape of the slot enables a graduated pressure to be applied exactly around the blocked duct, whilst the slightly convex lower surface of the head allows an even pressure on the skin. The edge of the slot is bevelled and rounded, thus preventing any injury to the skin. The slightly concave upper surface allows each comedo to be removed after extraction quite easily, so that the slot may not become blocked. The method of use is to place the edge of the slot 3 millimetres (one-tenth of an inch) from the comedo, and to gradually advance it with increased pressure.



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THE ST. MARYLEBONE DISPENSARY FOR THE PREVENTION OF CONSUMPTION.—The committee and medical officer of the St. Marylebone Dispensary for the Prevention of Consumption were "At Home" on Jan. 25th, at the Dispensary, 15, Allsop-place, Upper Baker-street, N.W. The invitation was well responded to and a representative gathering of visitors were shown over the premises, and showed much interest in the principles and methods of work of this new organisation in the borough. The dispensary is on the lines of those already existing in Edinburgh, Paddington, and in Berlin, Montreal, New York, Boston, and Pittsburg. As the chief sources of infection exist in the homes of the people in our great cities, it is here that the dispensary attacks the malady at its source. To the dispensary, which is free to all, patients who are not already under a medical practitioner may go for examination, diagnosis, and treatment. From the dispensary a physician and nurse visit the homes of the patients, who are thus educated in open-air treatment and in the protection of others by the observance of a few simple precautions. The medical officer also examines all those who have been in contact with the patients, and thus some of the early cases are diagnosed while they are yet curable. In every department of its activity the dispensary works in coöperation with the public health authority, with the various charitable agencies in the borough, and also with the practitioner. The work is carried on by voluntary effort, and entirely supported by voluntary subscriptions, which should be sent to the honorary treasurer, St. Marylebone Dispensary for the Prevention of Consumption, 15, Allsop-place, London, N.W.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 4, 1911.

The Present Plague Peril in China.

REPORTS recently received from China regarding the spread of plague in that country reveal a very grave situation. The note of warning was sent to us by our correspondent in Peking just before Christmas. The disease starting, it is said, in Mongolia has gradually extended into Manchuria, where at the present moment an extremely fatal and widespread epidemic has developed. From Manchuria the infection has already been carried southward to Chefoo and other places in the province of Shan-Tung, and to Tientsin and Yung-ping-fu, as well as to Peking itself in the province of Chi-Li. There are now indications that from these centres plague is diffusing itself in the interior of the Chinese Empire. Unhappily, the present prevailing type of the disease is the pneumonic, and this doubtless accounts both for the rapidity of spread and the excessive case mortality. At the Manchurian town of Mukden the latest accounts assert that more than 150 deaths from plague are occurring daily. Among the victims there are already included two medical men, one a Frenchman, Dr. MESNY of Tientsin, the other an Englishman, Dr. A. F. JACKSON, a medical missionary, both of whom had left their own work and volunteered for plague duty; also a lady doctor, Madame LEBEDEFF, has lost her life in attending upon plague patients. At Harbin, another Manchurian town north of Mukden, more than 1200 persons have lost their lives during a comparatively short period, and thousands of the panic-stricken inhabitants of the city have already fled seeking refuge in other towns and districts, and carrying with them the leaven of infection. Business is said to be at a standstill, and it is impossible in many instances to find the necessary labour to bury the dead; some corpses, deserted in the streets by their terrified relatives, are found half-devoured by dogs, and in the absence of any other available means for speedy burial they have been flung into the river that flows through the town. In the face of all this the Chinese officials in Manchuria have displayed for the most part an attitude approaching brutal callousness. In one instance representations made by the Russian consular authorities have succeeded in getting the Chinese Taotoi of the town dismissed from his post by order of the Peking Government. There is a very great scarcity of medical men in the plague-invaded district, and although Russian, Japanese, English, and other medical men have freely volunteered their services the number falls far short of what is imperatively required. Meanwhile, failing other skilled assistance, the students in the Chinese medical schools have been requisitioned by the Government for plague duty, and some of them have already fallen victims to the epidemic.

There are indications that by this time the Chinese Government has become thoroughly aroused, not to say alarmed, at the danger from the spread of plague in the Empire, but it seems to be at a loss to know what course to take. About a fortnight ago the Russian Foreign Office approached the Peking Government, as well as the other Great Powers interested in China, suggesting the organisation and despatch of an International Scientific Expedition into Manchuria to study on the spot the problems associated with the epidemic of plague. As a result we learn that the Chinese Government has now sent out a Circular Note to the Great Powers requesting their coöperation in discovering the cause or causes of the epidemic, and in devising appropriate measures to cope with it, and also as to conducting scientific investigations regarding the disease. The Great Powers, we understand, have been each invited to nominate a plague expert to serve upon the International Commission, and it is intimated that all expenses incurred by that body will be defrayed by the Chinese Government. We are not sure that a committee of scientific experts is the best organisation at the present juncture with which to fight the plague epidemic in China. Rather do we think that what is most needed is the establishment of an administration to formulate preventive measures and with power to enforce them. The bacteriology of plague and the various modes in which the infection is conveyed to man have been carefully studied by the Indian Plague Commissions as well as by other experts on the European continent and at home. It is, in our opinion, the practical application of all the acquired knowledge by able administrators rather than the advice of scientists that is most needed at the present crisis in order to arrest the sacrifice of human life that is now going on and which threatens to increase. Should an international commission of plague experts, nominated by the Great Powers, be despatched to China to deal with the epidemic, we fear that they will have a hard and up-hill task before them. In China there is at present no machinery for the notification of disease nor for registration of deaths; there is no existing sanitary service the officials of which could be trusted to carry out the measures framed by the international body of experts. There is, moreover, to be faced the dead-weight of passive resistance and obstruction by the Chinese themselves. The Chinese, or many of them, are fanatics where their own habits and customs are concerned; they are still distrustful of the "foreign devils" and their remedies. At times, indeed, the distrust is apt to find expression in rioting and in the destruction of the foreigner's life and property. China, with its 400 millions of inhabitants, has not yet awakened to the need of sanitary progress, and many of its towns and districts are in a deplorable sanitary condition.

Every circumstance unfortunately seems in favour of the spread of plague, especially if introduced in the pneumonic form. Like other countries, China has more than its share of rats and other rodents, so that there is a distinct probability, if plague penetrates into the interior of China, that it will make a long stay and leave its mark on that country for years to come. China's cry for help will no doubt receive a sympathetic response from all the Great Powers. Immediate

action is obviously called for and will, no doubt, be forthcoming from the International Commission as soon as it is formed. The matter is one of the greatest urgency if the spread of plague into the interior of China is to be arrested. We have grave fears that if the epidemic goes on increasing at its present rate we may have to witness in China a sacrifice of human life compared with which even the Indian experiences may sink into comparative insignificance.

Operating Without Skilled Assistance.

IN an address delivered before the Students' Medical Society in Aberdeen and published in our columns on Dec. 24th, 1910, Mr. G H. COLT drew attention to the necessity which occasionally arises for a surgeon to operate without the assistance which he would like to command. To those who are accustomed to have skilled assistants in operating it may appear difficult to perform extensive and serious operations with little help and even with none, or with help of an unskilled kind. It is on board ship that emergencies of this kind usually arise. Many a surgeon on board ship has to operate in cases of emergency with no more help than can be obtained from the passengers or crew. Say that an operation for appendicitis has to be done, and there is no anæsthetist on board. A stewardess, with certain instructions, has to carry out the administration of the anæsthetic, anæsthesia having been induced by the surgeon, who has to keep a watchful eye on the progress of the anæsthesia and the general condition of the patient. A passenger, perhaps, or one of the crew may be called upon to hold retractors, and generally sufficient assistants can be obtained who make up by willingness for their lack of skill. Should any of the helpers have assisted at a previous operation he feels that he knows the work, and is regarded by his fellow assistants as well-qualified to supply skilled help. The difficulties of performing an operation at sea are not small, even when the sea is calm, yet the outcome is generally good, and most of the patients do remarkably well, even though the operation has been performed in mid-ocean —as our columns have not infrequently testified. When the emergency has arisen in the tropics the cabin is likely to be both ill-ventilated and hot, but still, for the most part this does not seem to have a harmful effect on the patient. It is seldom that any private cabin is sufficiently large to serve for an operating theatre, so, as a rule, the saloon or chief cabin is used. Some of the larger and more modern liners have sections of the vessel which can be devoted to what may be called hospital purposes, but there is seldom sufficient room therein for operating in comfort. Even when the sea is at a dead calm the difficulties of performing a major operation are not small, but they can generally be overcome. If, however, the emergency arises during rough weather the difficulties are enormously increased, and few professional experiences are more exciting, from the terrible responsibility of their nature, than operating for the relief of a strangulated hernia or applying midwifery forceps during a storm at sea. In such circumstances every position is unstable, two or three helpers may be required to keep the patient from sliding about the cabin, and the table or mattress on which the operation is performed will generally need to be lashed in position, so that the patient can be held on it with less difficulty. The surgeon himself may need some assistance in maintaining his equilibrium, and the instruments, lotions, and dressings will need special supervision if they are not to be thrown about with the rolling of the vessel. It is a little wonderful that the results of these operations at sea are so good; the fact speaks clearly for the possession by the surgeon of imperturbability, and of resolution despite distracting circumstances to carry out the essentials of his scientific procedure without hurry or scamping.

In operations undertaken at sea the surgeon has help, unskilful though it may be, and his task would in such troublous conditions be well-nigh impossible if he were deprived of that measure of aid. In some professional situations, however, this degree of assistance is not vouchsafed to the operator, and he is compelled to rely on himself alone. He has to do what needs to be done without any form of help whatever. Where the surgeon has not only to administer the anæsthetic, but to perform the operation, and that single-handed, he is in a very arduous place. Spinal anæsthesia has removed in great part the absolute need for general anæsthetics in operations on the lower half of the body, and the various forms of regional and local anæsthesia also afford aid to the surgeon operating by himself, but all these things bring with them liabilities to error. Many varieties of automatic retractors are now obtainable, and these have relieved the surgeon of the need of an assistant for retracting the edges of the wound. It is probable that most major operations, such as amputations and abdominal sections, can be carried through successfully without any assistance at all, but performances such as these must be regarded rather as *tours de force* than as ordinary efforts of surgical skill. To almost every surgeon occasions will come when he will have to rely on his own unaided efforts, and he will probably obtain better results if he has taken thought beforehand as to what may be expected of him in different junctures. Surgeons are so much in the habit now of relying on a good supply of instruments that many of them are hardly aware with how little it is possible to do all that is necessary. Not that we would undervalue the many forms of instruments which the ingenuity of surgeons and the assiduity of instrument-makers have placed within professional reach, but we may recognise that, when necessary, surgeons can do without them. Should all ordinary surgical instruments be absent a razor or penknife may replace the scalpel, a piece of wire or a hairpin may serve as a probe or a retractor, and an ordinary sewing needle and cotton may supply the sutures. As to skilled assistants, the better the surgeon the more he will value skilled help, for the difference is readily felt when an assistant accustomed to the operator's methods is exchanged for one who is unfamiliar to the special routine. But the emergency of having to operate without help is more easily overcome if preparation has been made for such an eventuality—i.e., if the practitioner, when not oppressed by the imminent call for his services, has thought out for

himself how he would act in certain situations when circumstances had deprived him of his proper instruments and all assistance.

"Fertility."

THE problems connected with the questions of fertility and fecundity, not only among animals but also in the human race, are exceedingly complex, and our knowledge of the laws governing them is far from perfect. The subject is one of importance, not only to medical men and economists, but also to breeders of animals, and it has not failed to attract the attention of some of the acutest thinkers of the age. It is discussed at length by DARWIN, and HERBERT SPENCER also devoted a considerable amount of attention to the subject. An important fact in relation to the subject is that the birth-rate is falling steadily at the present day, not only in almost all the countries of Europe, but to even a more marked degree in our own colonies. In the Registrar-General's report for the year 1907 an interesting table is given showing, as far as is possible, the comparative fertility of the married women of those countries from which the necessary data can be obtained, and these figures form a valuable measure of human fertility in the several countries. From this table it appears that among the continental countries from which it has been possible to obtain returns there were only two, Austria and Spain, in which the fertility of wives during the 20 years 1881–1901 showed a tendency to increase, and this also applied to Ireland. The fall in the other countries varied from as little as 2·5 and 3·7 per cent. respectively in Italy and Norway to as much as 17·7 per cent. in England and Wales, and nearly 20 per cent. in France and Belgium. In New Zealand and in the States of the Australian Commonwealth the decrease in the legitimate birth-rate was even more striking and ranged from 23·2 to 30·6 per cent. All the evidence available tends to show that while a very small proportion of this decrease may be due to an increase in the age constitution of the married women of conceptive ages, the main part of it must be attributed to a deliberate limitation of child-bearing on the part of the people themselves. The influence of age in diminishing the fertility of married women has had attention drawn to it by MATTHEWS DUNCAN, COGHLAN, and other writers. COGHLAN has shown that the probability of a birth occurring within one year after marriage in the case of a woman aged 21 at the time of her marriage is 396 per 1000, while the probability in the case of a woman married at the age of 36 is only 125 per 1000. In the same way, the effect of age on the average issue is shown by the fact that while the average number of children to a marriage is five when the mother is aged 20 years at the time of her marriage, it is only 1·36 when she is aged 35 and 0·52 when she is aged 40. The average issue of women at the 1901 census married before 1881, when married between the ages of 20–25, was in England and Wales 7·27, while for those married between the ages of 35–40 it was only 1·75; and if recent periods are compared with remote ones there is a definite diminution in the degree of fertility at all ages at the present time.

In considering the factors which influence fertility and fecundity it is necessary to devote our attention to animals rather than to man, because of the fallacies introduced by the prevention of pregnancy among the latter. HERBERT SPENCER put forward the view that the power to sustain individual life and the power to produce new individuals are inversely proportional, so that with an abundant food-supply and a favourable environment there is a high degree of fertility, while with the opposite conditions prevailing the degree of fertility is reduced. There are, however, many other factors which must be taken into account, and one of them, as we have seen, is the influence of age. In this respect, no doubt, the same law applies to animals as to man, and, as MARSHALL points out,[1] GEYELIN has shown that the fertility of the domestic fowl rises to a maximum in the third year after hatching, and in further years gradually falls to a minimum. The marked effect produced by the surroundings and food of an animal upon its fertility was noted in a special way by DARWIN, who attributed the fertility of many of the domestic animals to the regular and abundant food-supply they obtained with a minimum of labour. A very good example of this, cited by him, is the case of the wild duck, which lays perhaps some ten eggs a year, as contrasted with the domestic duck, which may lay as many as 80 or 100 in the course of the year. That good feeding is not the only factor concerned is seen, however, in the case of many wild animals kept in captivity which are often completely sterile in such surroundings even when they couple freely. As DARWIN points out, this condition is common to so many different types of captive animals that it cannot be attributed to any one factor such as change of food, or alteration in the amount of food, or change of climate, or want of exercise. Some further explanation is required, and no doubt it is to be found, as he suggests, in any change in the habits of life which may, when great enough, be found to affect the powers of reproduction. That an excessive amount of food or an improper kind of food may produce such a condition is shown by the notable sterility of animals which have been especially fattened, such as cows which have been fed for the butcher. A similar condition is not infrequently met with in women, and every practitioner is familiar with the young woman who grows rapidly fat and at the same time suffers from complete or partial amenorrhœa and sterility. In this relation the observations of HEAPE and MARSHALL on the conditions which influence the fertility of sheep are of great interest. The former has shown that the fertility of a flock depends largely upon its management, the quantity and quality of the food, the climatic conditions, and the character of the pasture. In an investigation on the fertility of Scottish sheep MARSHALL points out that the practice of "flushing," or the artificial stimulation of the ewes by an extra supply of food at the approach of the breeding season, is undoubtedly beneficial, and the percentage of lambs born is highest among sheep which have been subjected to this process. Not only does this practice tend to increase the fertility of the sheep,

[1] The Physiology of Reproduction, 1910.

but it also hastens the onset of the sexual season, and this result may be ascribed, according to MARSHALL, to a general increase in the ovarian metabolism. At the same time, if the excessive feeding is overdone and the sheep are forced to depend for the rest of the year on a mere sustenance diet, their fertility ultimately tends to become impaired.

Among other factors which must be taken into account in a consideration of fertility and fecundity are the influences produced by in-breeding and by heredity. The inheritance of fertility in man has been investigated by KARL PEARSON, who has demonstrated that fertility is transmitted equally through the male and female parents, while he has also shown in the case of thoroughbred horses that the sire hands down to his daughter a portion of the fertility of his dam. The great importance of the questions to all those who have the welfare of the race at heart was never more apparent than it is at the present day, and these problems will well repay further research, since the volitional limitation of the birth-rate, prevailing as it does chiefly among the more responsible members of society, is associated with no diminution, if not indeed with an actual increase, in the numbers of the mentally and physically unfit. In this connexion we may refer our readers to a striking if unscientific compilation, entitled "Racial Decay," made by Mr. OCTAVIUS CHARLES BEALE, and just published at Sydney, New South Wales.

Annotations.

"Ne quid nimis."

STANDARD BREAD.

WE have often enough appealed in our columns for a nutritious loaf of bread, which was also appetising, to replace the dazzling white tasteless rolls and slices which modern machine methods have given us. We have written long since against reducing bread to a mere mass of bleached starch. Nature endows wheat flour with things other than starch, and these things form essential elements in wheat which are of the utmost value to the human animal. We are tired of hearing that "the thing can't be done" when it was done for centuries and centuries before our time, and we are always in some doubt when modern and improved methods are mentioned as to whether the improved method is to the advantage of the consumer. The making of bread has been brought to a remarkably constant standard of recent years, but unfortunately the standard is a poor one, and pays but little compliment to nature's original product. It is based merely on colour, texture, lightness, or any other quality which has no reference to dietetic value at all. Real bread has been taken out of our mouths by modern methods of impoverishment, and it is time to fasten the standard on an altogether different requirement. It is one thing, however, to suggest a standard and another to bring that standard within the range of practical politics. Between the extreme schools let a compromise be made. We are told, on the one hand, that in roller-milled flour certain valuable constituents represented in the germ and the bran are eliminated; those who lay stress on this point seem to forget readily that bread made from such a flour is practically completely absorbed by the eater. On the other hand, while whole-meal contains these valuable constituents its absorption is far from complete, and there is a consequent waste of food material. Physiological experiments have demonstrated these facts, and the husk in the whole-meal is responsible for preventing a certain amount of the bread from being assimilated. The standard bread, it seems to us, should not contain the husk of the wheat, but it should contain the germ, as is the case with stone-ground flour. But the practical baker says of this method of manufacture that the presence of the germ discolours the flour and gives it a decided tendency to become rancid. The germ also contains active diastase which interferes with the production of a satisfactory sponge and dough. If that is the case, it is difficult to understand why very excellent bread with attractive flavour and texture was ever successfully produced in the pre-roller-milling days. We are not prepared to accept the statement that, if the germ offers any difficulty at all, the difficulty cannot be removed. The disadvantages of the presence of the germ in the making of the loaf, if and when they are present, can be overcome and turned into advantages. If we are right here, there can be no question of what the standard for bread should be, though the quality of the wheat must be reckoned with.

THE HEALTH OF THE ARMY IN 1909.

THE continuous improvement in the health of the British Army that has now been in progress for several years, and to which we are getting accustomed, is more noticeable than ever in the statistics for 1909 which have just been published. We hope to deal with the report in an early issue: at present we merely wish to draw attention to the remarkably high standard of efficiency that has now been reached. The proportionate numbers of men admitted to hospital, and of cases constantly sick in hospital, are practically only half what they were according to the decennial average, 1889–1898; the invalids finally discharged from the service are rather more than half, and the deaths appreciably less than half, the proportionate numbers of that decennium. The improvement has been taking place steadily year by year since the end of the South African war in 1901. It cannot be expected that this progress will be maintained year after year indefinitely—finality must be reached some day; but, as the Director-General intimates, further improvements in the sanitation of barracks and camps, and the advance of preventive medicine, should ensure the maintenance of the present state of health that is so satisfactory. Putting on one side for the moment the professional aspects, whether viewed from the military or the medical standpoint, and considering merely that of the taxpayer, we find that more than 2200 beds in military hospitals at home stations have been closed down as no longer required; while in the colonies a further 901 have been found to be unnecessary. The number of men sent home as invalids has been reduced by 570, compared with the previous year, although the strength of the army is numerically greater. The improvement is manifest in nearly all the preventable diseases that are of importance in military service. Thus, for enteric fever, the admissions were in a ratio of 3·8, compared with 7·2 per 1000 during the previous quinquennium; Malta fever has practically disappeared; venereal affections caused 73·4 admissions, compared with 105 per 1000. Malaria, however, in spite of all efforts at prevention, caused 75·3 per 1000 admissions, a perceptible increase on the decennial average of 64·1, Jamaica, Straits Settlements, and India having suffered severely; though in Mauritius and South China there has been an improvement. Enteric fever is always a source of anxiety to the military medical officer charged with the care of large bodies of men brought together, often under circumstances of urgency; it is gratifying to find that at neither of the large camps at the Curragh or on Salisbury Plain did any outbreak occur during 1909. It is stated that over 80,000 troops were brought together during the summer

on Salisbury Plain under canvas. We have some idea, therefore, of the magnitude of the sanitary problems involved and of the success that attended their solution. Another instance of successful sanitation is that of the territorial camp at Caerwys in Flintshire, where 14,000 men were concentrated; the water-supply had been condemned, and all drinking water was sterilised by means of a heat exchange apparatus with complete success. In India, also, and South Africa there has been a most satisfactory decrease in enteric prevalence. In the former command it is interesting to learn that an increasing number of cases are being reported which show infection by paratyphoid bacilli; in South Africa most of the cases occurred at Pretoria and were of very mild character, such as, in former years before agglutination tests were carried out, would have been returned as simple continued fever or influenza. We notice, by the way, that in this fifty-first volume the title has been changed from "Army Medical Department Report" to "Report on the Health of the Army." If the condition of things during the past year be compared with that existing, say, 30 years ago, there can be no doubt that its description is more fitly styled a report on the health, than on the sickness, of the population concerned. The military authorities generally, and the Director-General and his colleagues in the Army Medical Service in particular, are to be congratulated on the excellent state of the health of the army, which is a source of satisfaction to every citizen of the Empire.

THE POSITION OF THE GENERAL PRACTITIONER.

A PAPER recently read by Mr. Edward Jessop (President) before the Hampstead Medical Society drew attention to the gradual change which is taking place in methods of treatment of disease and the effect this is having upon the interests and position of the general practitioner. Without containing anything new, Mr. Jessop's views form a good *résumé* of some urgent questions. Whereas formerly treatment mainly consisted in the administration of drugs, new and expensive drugless methods are now replacing the old, and there is a tendency to substitute institutional treatment for treatment in the home, on the ground that the most efficient treatment of disease needs the safeguard and apparatus which are to be had completely only in a hospital or institution, and not in a private house of any kind. The effect of such an opinion, if it become general, will be to deprive the family practitioner of a large part of his practice, at any rate of most of his serious cases. "However much anxiety the present may give the thoughtful practitioner," says Mr. Jessop, "his future is still more precarious, every man's hand is against him; the medical official seems desirous of controlling some ever-expanding portion of the community in order to advance his own sphere of interest, by getting under his own organisation whole masses of the public and pauperising them by offering them free or inefficiently paid medical service." Although we cannot agree entirely with Mr. Jessop in attributing to the rapacity of the medical official the loss which the general practitioner sustains nowadays in many directions, there is much that is true in his complaints and fears. The suggestion of remedies for this state of things is a much more difficult matter than the statement of their many causes. Mr. Jessop finds salvation in professional coöperation in the form of local unionism. As far as the rivalry of out-patient departments goes this form of action is sound. His proposals for the opening and upkeep by the local medical practitioners of a bacteriological and X ray laboratories are novel but not too enterprising for such a district as Hampstead, and would, if carried out, be a practical evidence of local coöperation which it would be pleasant to record. There is a danger, however, of local unionism running to excess and impeding that coöperation between all branches of the profession which the institution of consultative out-patient departments would do much to establish and consolidate.

ONCHOCERCIASIS.

SINCE the establishment of the Foods Department of the Local Government Board some five or six years ago much admirable work has been done by it in the way of supervision of our foodstuffs and of investigation into the soundness of our meat supplies and the adulteration or sophistication of other articles of diet. The latest contribution furnished by this department deals with a parasitic condition to which the new and strange name of "onchocerciasis" has been given, and which is met with in frozen quarters of beef imported into this country from Australia. The inquiries upon this subject were conducted by Dr. A. W. J. MacFadden, the present Acting Chief Inspector of Foods, in conjunction with Dr. Robert T. Leiper, the well-known helminthologist of the London School of Tropical Medicine.[1] It appears from the reports of these experts that for the last 12 months or more the attention of the department has been directed to the presence of nodular masses, varying in size from that of a pea to that of a walnut, in frozen meat arriving at certain of our English ports from Australia. These nodules, known to butchers and others under various names such as "worm-nests," "white kernels," or "parasitic tumours," contain a thin thread-like worm which Dr. Leiper has identified as belonging to the family Filariidæ, genus Onchocerca, hence the name onchocerciasis. These parasitic nodules are practically confined to the region of the flank and brisket of the forequarter of the animal, though they may occasionally be found in the hindquarter, but in that case limited to a small area over the stifle, or knee joint. This localisation is of importance, as will be seen, when the meat has to be passed for human consumption or rejected. The condition is not confined to cattle in Australia, but has been found in animals in the United States of America and elsewhere. Happily, the encysted parasitic worms and their young do not survive for more than a few hours the death of the cattle in which they exist. It is interesting to learn that the parasite belongs to a class which needs the intervention of a biting insect in which it has to undergo a portion of its development; without the intervention of this insect the young worms cannot leave their bovine host or enter into the body of another animal. The transmitter or intermediate host of the onchocerca is in all probability either a Stomoxys, Hippobosca, Tabanid, or one of the Ixodidæ. It is very reassuring to hear from the experts that the direct development of the parasite in man as a result of eating the affected meat is *impossible*. From the butcher's point of view the nodules may be regarded as merely interfering with the general appearance of the beef. But the report very properly points out that certain other parasites present in meat foods are of a dangerous and communicable character, and the public are not in a position to differentiate one kind of encysted parasite from another without skilled assistance. It is therefore very undesirable to encourage in the public mind an attitude of indifference towards the presence of any parasitic condition in meat. Although the worms themselves in the beef cannot when eaten by man affect him by producing onchocerciasis in his flesh, yet there can be no

[1] Reports to the Local Government Board by Dr. A. W. J. MacFadden and Dr. Robert T. Leiper, F.Z.S., on a Parasitic Condition (Onchocerciasis) met with in Australian Beef [Food Reports No. II]. Published by H.M. Stationery Office. Price 6d.

question as to classing meat so affected as unsound, for both the worms and the local inflammatory products by which they are surrounded in the nodules are foreign to sound beef and must be objectionable to the consumer. The chief ports at which the affected carcasses are imported are London and Liverpool, and in both of these ports a nearly similar course of action has been, after due consideration, adopted with a view to prevent the use of meat infected by the onchocerca. All forequarters of Australian frozen beef are detained on arrival in cold store until the affected parts—namely, the flanks and briskets—have been sawn off each quarter. The remainder of the forequarter is then released, the flanks and briskets being detained by the sanitary authority in cold store until the importer has given notice that he wishes to dispose of them either for industrial or for food purposes. If it be desired to use the detained parts purely for industrial purposes examination of the meat is not called for; it only remains for the local authority to take the necessary steps, by denaturing or otherwise, to secure that no part of the meat can be used for human consumption. If, on the other hand, the importer wishes to utilise the detained flanks and briskets for food, he is required to have the pieces thawed out and cut up under supervision of an officer of the sanitary authority, who in each case directs on the spot what is to be done should he regard the meat as unfit for food. In the large majority of instances the importers have not availed themselves of the option of having the detained portions examined; they have found it more convenient to surrender the parts in question to the authorities for destruction without examination. This method has necessarily caused financial loss to the importers; but it is to their credit that notwithstanding this they have have shown a ready willingness to comply with the requirements of the sanitary authorities and the central department. The provisions made by the Local Government Board in the Foreign Meat and Unsound Food Regulations, 1908, have enabled the large importations of affected meat to be dealt with efficiently at the port of entry. The extent of these importations may be gathered from the fact that between July and October of last year the port of London alone was receiving between 60,000 and 70,000 quarters of Australian beef per month. The report is reassuring, and shows that we need not be afraid of consuming beef imported from Australia so long as the present method of dealing with it at the port of entry is followed, little if any of the affected meat reaching the market. The report also indicates the value of the work which is being done by the Foods Department and its officers. As the area of distribution of the onchocerca is far wider than Australia we may trust our port sanitary authorities, with the assistance of the Local Government Board and its food inspectors, to maintain a close watch upon all beef carcasses imported from other countries.

OCCULT PHENOMENA.

THE desire for knowledge which is characteristic of the human intellect has in all ages led men to study the explanation of facts, or rather what appear to be facts. For sometimes the fact turns out not to be a fact. Every one will remember the problem of the fish and the bucket of water which Charles II. propounded to the Royal Society. As an example of an opposite nature, it was evident that the perturbations of the planet Uranus were due to some other body attracting it, and it was suggested that this other body was another and as yet undiscovered planet. This planet, afterwards called Neptune, was assigned a place in the heavens solely by mathematical calculation, and these calculations were carried out independently and practically identically by Adams and Leverrier. Dr. Joseph Grasset of the University of Montpellier, being anxious to record the manifestations of occultism which have been reduced to a scientific basis, has written a book entitled "L'Occultisme Hier et Aujourd'hui; le Merveilleux Prescientifique," and an English translation of this work now lies before us.[1] In Dr. Grasset's words, "Occultism is not a survey of all things hidden from science (I mean to positive science, after Auguste Comte's manner) but which may belong to it." He shows how some occult phenomena have been "redeemed from the domain of occultism," such as hypnotism, the involuntary and unconscious movements which are revealed in table-turning and "the sensation of memory, so-called polygonal." To this last are due crystal visions and the imaginations of mediums. The polygon, we should say, is Dr. Grasset's name for the lower psychical centres. Telepathy and presentiments are phenomena the scientific demonstration of which Dr. Grasset considers at present to be very far off, while mental suggestions and the moving of objects without human contact, such as levitation, are, in his opinion, less difficult to demonstrate and should be at once investigated. We can recommend the work as well worthy the attention of our readers, but if possible they should read it in the original, for M. Tubeuf's English, although wonderfully good for a foreigner, is somewhat difficult to read, as witness the following sentence on p. xxi.: "One takes the risk of being misled because one believes a little in advance, and one hopes that the case, about which one asks oneself if it is true, will prove to be true indeed." There is a danger for some classes of persons that the study of the occult will unbalance a mind which starts in a more or less unstable condition. A study of Dr. Grasset's book will give them a safe chart by which to steer and safe data by which they may, as M. Faguet says in his preface, "calculate the reckoning of the ship." And the limitations and rules laid down will be no less useful to the truly scientific explorer of the borderlands of science as at present known.

"CHAMPAGNE AND ITS SIMILARS."

IN an annotation last week under the above heading we suggested, when discussing certain fraudulent practices which had been brought to light by the peasants' strike in the Champagne district, that the French Government might do well to inaugurate a system of control, designed to secure the bottling of nothing but the Champagne-grown product under a Champagne label, other designations being reserved for other wines. We now learn that this is exactly what the French Government proposes to do, and a Bill to this effect was placed upon the table of the Chamber of Deputies on Monday last. The Bill provides for a system of State control by which the transport of the wine from the presses of the growers to the cellars of the manufacturers will be under official eyes, and the manufacturers will be bound to store all sparkling wines made from grape-juice produced outside the true Champagne area in cellars which are to remain separate and distinct from the champagne cellars. The cost of this State control is to be met by a tax of five centimes per bottle to be borne by the manufacturer. Finally, a year after the Bill has passed into law wines coming under the definition of champagne will only be allowed to be placed on the market if they bear the word "champagne" in very distinct characters. It is obvious that the measure suggested is calculated to increase the confidence of the consumer, and at the same time the Champagne district will be protected from outside competition and from

[1] The Marvels Beyond Science. By Joseph Grasset, M.D., with a Preface by Emile Faguet of the French Academy; authorised English translation by René Jacques Tubeuf. New York and London: Funk and Wagnalls Company. 1910. Pp. 387. Price 7s. 6d. net.

tactics which were not fair to either. The law may press hard upon the manufacturer in times of shortage; but as the consumer will no doubt be asked to pay for any increase in the cost of production, he may well have his attention drawn to the fact, pointed out by us last week, that champagne "similars," as for example the sparkling saumurs, show dietetic qualities not a whit inferior to genuine champagne. Flavour, after all, may be a costly affair.

MEDICAL ADMINISTRATION IN TRINIDAD.

IN our issue of Sept. 17th, 1910 (p. 904), we alluded to the proceedings of a commission appointed by the Governor of Trinidad to inquire into the circumstances of an alleged case of plague admitted into the Colonial Hospital and certain statements made concerning the medical administration of the colony. The report of this commission has now been published. It is an exceedingly lengthy document, extending to 146 folio pages, and with the minutes of evidence and appendices forms a volume of 860 pages. The commission sat for 27 days, counsel were engaged on either side, and everything that could possibly be said or written on the matter appears to have been written or said, not once, but many times over. We have, first, an exhaustive report by the chairman, Mr. Justice A. D. Russell; then three separate reports by three of the commissioners; then a joint report by these same four gentlemen; lastly, an independent report by the fifth member of the commission, who, however, agrees in all essentials with his colleagues. We are glad to learn that the commission did not find any of the serious allegations that had been made against the medical administration and personal character of Dr. H. L. Clare, the surgeon-general of the colony, borne out by the facts disclosed in this protracted inquiry. With regard to the alleged suppression of cases of infectious disease the commission does not consider that the surgeon-general acted in bad faith, but finds that his tendency not to recognise such cases became so marked as to expose him to reasonable suspicion of the intention to suppress them, and that owing to the methods he adopted precautions which ought to have been taken were omitted or unduly delayed. As to complaints regarding the cutting down of supplies of drugs and curtailment of the food supplies to hospitals, the commission considers many of these to have been trivial, and that there was no evidence to show that the hospitals had suffered; the surgeon-general's purpose, to ensure economy and check waste, was a good one, whatever may be thought of the means adopted. With regard to the understaffing of the hospitals, it finds that the medical service has been in a dislocated condition, owing to permanent appointments not being made, and that it is a question for hospital experts to decide what an adequate staff for these hospitals should be. It finds that the alterations made in the hospital rules by the surgeon-general were made with good intentions, and, if given a fair trial, might have produced decided improvements. In one instance it was alleged that the surgeon-general, in his capacity of senior consulting surgeon, had neglected his duty in not visiting the hospital to see a case of suspected plague. The commission finds that he was in error in not realising that it was his duty, as well as his right, to visit and advise upon cases, to assist in the diagnosis, and to direct precautionary measures. In recommending the dismissal of a young medical officer in connexion with a supposed case of plague, the commission finds that the surgeon-general acted unjustifiably, and in various respects improperly, especially in keeping back documents which had a bearing on the junior officer's defence, and which it was his duty to forward to the Governor. We are sincerely glad to hear that the chairman of the commission, although not able to acquit Dr. Clare of failings in administrative capacity, finds no proof of any lack of honour or integrity in his character. The other three signatories to the joint report, in their separate addenda, criticise Dr. Clare's action somewhat unfavourably. The lengthy report by the chairman is a careful *résumé* of the circumstances of medical administration in Trinidad during recent years, and includes a psychological study of the surgeon-general, which must be a document of great interest to this officer to read at his leisure, although perhaps not so agreeable for the subject of the study to peruse as for its author to compose. It exhibits an air of philosophic detachment that affords an agreeable contrast to the heated discussions at the court of inquiry. This inquiry was virtually a public trial. Certain letters had been written to the public press of Trinidad by Dr. Fernand de Verteuil, upon which certain charges were based. Counsel appeared for this gentleman, who in the public interest came forward as prosecutor; counsel also appeared for Dr. Clare, the surgeon-general of the colony and responsible medical administrator. The proceedings therefore came to be a forensic battle, each side trying to prove its case, and neither trying to bring out the whole truth. In the course of the contest the surgeon-general was exposed to cross-examination for six whole days; in the words of the chairman of the commission, "over a range of subjects quite unprecedented in my experience." Mr. Justice Russell congratulates Dr. Clare on having come so well out of it, admits that it is a most dangerous ordeal to which to submit an accused man, and apparently would not allow such an occurrence again. We think that the dispassionate form of inquiry, or commission, to which we are accustomed at home, in which the object is simply to get at the facts of the case, not to secure a forensic victory for one side or another, is much to be preferred.

SEROLOGICAL TESTS FOR BLOOD.

AT a special meeting of the Medico-Legal Society held at the Royal Institute of Public Health on Jan. 25th, Dr. W. R. Smith read a paper giving a *résumé* of the methods employed for the differentiation of human blood stains from those of animals. This was followed by an interesting demonstration of these methods by Mr. L. Rajchman, demonstrator of bacteriology at the institute. The technique of carrying out the precipitin test was demonstrated and explained at length. The principles on which this test is founded are now definitely accepted, and in Prussia, Austria, Würtemberg, and other states the procedure has received official recognition. Unfortunately, the test is a complicated one and can only be satisfactorily carried out by an expert in a well-appointed laboratory. As is well known, the test is based on the fact that if an animal be immunised by injections of a culture of a micro-organism a serum may be obtained from its blood which will cause a precipitate in a filtered broth culture of the same organism. Further, if an animal be injected with the blood of an animal of a different species, there can be obtained from the blood of the injected animal a substance which will produce a precipitate in the serum of the blood of animals of the same species as the animal whose blood was used for injection. For medico-legal purposes, a rabbit is injected with the defibrinated blood of a man, and from the rabbit's blood a serum is obtained which, when dropped into a clear solution of human blood, causes a cloudiness or precipitate to form, a result which is not produced in a solution of blood from another animal. The main difficulty in the process lies in obtaining from the rabbit an anti-human precipitating serum of the required strength. To be thoroughly reliable the reaction (that is, the

formation of the precipitate) must begin in five minutes and be complete in 20 minutes; any cloud appearing after that time cannot be considered as specific. Also, the dilution of the blood to be tested should be 1 in 20,000; more rapid results can be obtained if the dilution is 1 in 1000. Precipitates can be obtained by an anti-human rabbit serum of a less strength if the test is prolonged by incubating the tubes in which the mixed sera are placed, but the results are then found not to be so reliable. It is to be hoped that for purposes of the law opportunities will be afforded by the State for the preparation and further study of the serological tests. The detection and differentiation of blood stains in criminal trials are of such importance that every facility should be officially given for carrying out the necessary laboratory methods. It is an important fact that old blood stains will respond to the test as well as recent ones. Indeed, it seems difficult to fix a limit to the length of time which is required to destroy the substances which produce the reaction. Von Hannmann and Meyer maintain that they have been able to recognise, by means of the precipitin tests, the human origin of mummies 3000–5000 years old. Uhlenhuth and others, however, have not been able to corroborate these observations.

THE VITAL STATISTICS OF DURHAM COUNTY.

Dr. T. Eustace Hill has been commendably prompt in preparing the vital statistics of the year just closed for the administrative county under his jurisdiction as medical officer of health. We have therefore pleasure in drawing attention to the general improvement he is able to record in the death-rates from most of the chief diseases as compared with the average rates in the decennium 1900–09. In the middle of 1910 the Administrative County of Durham is estimated to have contained a population of 865,960 persons, an increase of 11,160 on the estimated population of the preceding year. In the following table, which is copied from a print issued on the authority of the county medical officer, will be found the vital statistics of 1910, compared with those of the previous year, and also with the average statistics for the years 1900–09:—

Administrative County of Durham.	Annual rates per 1000 living—		Mean rates 1900–09.
	1910.	1909.	
Birth-rate	34·4	35·5	35·5
Death-rate (all causes)	15·1	15·7	17·5
Zymotic death-rate	1·62	1·61	2·20
Infant mortality (per 1000 births)	126	124	153
Small-pox	*Nil.*	*Nil.*	0·007
Scarlet fever	0·08	0·09	0·14
Diphtheria and membranous croup	0·17	0·17	0·21
Fever (enteric and continued)	0·09	0·12	0·17
Measles	0·20	0·37	0·39
Whooping-cough	0·25	0·25	0·36
Diarrhœa	0·81	0·59	0·89
Phthisis	0·88	0·91	1·05
Other tuberculous diseases ...	0·65	0·73	0·83
Acute respiratory diseases ...	2·42	2·38	2·94

From this table it will be seen that so far from any recovery in the birth-rate there has been a still further fall from 35·5 per 1000 in the ten years ended 1909 to 34·4 in the year 1910. The general death-rate, which in the preceding decennium had averaged 17·5 per 1000 of the estimated population, fell to 15·7 per 1000 in 1909, and further fell to 15·1 in the following year. Infantile mortality last year was in the proportion of 126 per 1000 births, and although this rate was slightly higher than in the previous year it was lower by 27 per 1000 than the average rate in 1900–09. The mortality from tuberculous phthisis, which in the ten-year period ended 1909 was equal to 1·05 per 1000, fell to 0·88 in the year 1910. All the common infectious diseases showed a decline last year as compared with the decennial average; and this decrease is particularly satisfactory in the case of enteric fever, in view of the fact that, according to the Registrar-General's reports, the county of Durham forms part of the northern area of high enteric fever mortality, in which that disease has been exceptionally fatal in recent years. Later on we shall doubtless receive from Dr. Hill the usual more detailed account of the public health in the county of Durham, including particulars of the local distribution not only of mortality but also of the notified cases of enteric fever and other diseases that are known to depend for their propagation mainly on insanitary conditions.

THE HEALTH OF THE NAVY IN 1909.

WE have received the Statistical Report on the Health of the Royal Navy for 1909, a detailed review of which will be published in a succeeding issue. An outstanding feature of this report is the inclusion in the appendix of papers upon various important medical subjects by surgeons of the service—contributions to professional literature which we welcome with great heartiness. Pyrexia of uncertain origin caused numerous cases of illness in the Mediterranean Command, and we look to the surgeons of the Royal Navy for their share in the elucidation of these diseases. Among noteworthy features are the statistics for venereal diseases, which do not show any diminution in severity nor acceleration of recovery in spite of the improved methods of treatment now available and adopted, and the much-increased prevalence of rheumatic fever in all commands except the Australian. The admission ratio for rheumatic fever compared with the previous five years has been more than doubled, and although some part of the increase has been due to more accurate classification, it is not entirely thus accounted for. The statistics for alcoholism are wonderful—viz., 115 cases in the whole force of 112,700 men. This is a condition of sobriety of which even the most ancient alcohol-immunised nation might be proud, and which reflects the greatest credit upon all concerned, officers and men alike.

THE DENTAL CURRICULUM.

IN the current issue of the *British Dental Journal* reference is made to the advisability of substituting hospital for private training in dental mechanics. The subject is one on which those intimately connected with the teaching and examining of dental students are deeply interested. In our view systematic instruction at a properly equipped dental school must have a great advantage over training obtained under a private practitioner. It is, perhaps, a pity that our contemporary has not referred more fully to the dental curriculum as at present constituted, for we cannot help feeling that it seems to be out of touch with the modern development of dental surgery. If we go back about 50 years we find that the average dental practitioner was principally occupied with the manufacture of artificial dentures, and that conservative operations, or, to speak perhaps more correctly, dental surgery, occupied but little of his time. We find that the curriculum designed about this period required three years' training in mechanical dentistry and two years' general and dental hospital practice. The practice of dentistry was mechanical rather than surgical. During the "seventies" and

more especially during the "eighties," greater attention was bestowed on conservative operations, and with a corresponding growth in pathological knowledge the practice of dental surgery began to be considerably more surgical, requiring from the practitioner a more thorough knowledge of medicine and surgery. In other words, the practice of dentistry became more the practice of dental surgery than that of dental mechanics. The curriculum, however, demanded by the various examining bodies still continued to insist on three years' mechanical training and two years' general and dental hospital practice. Within the last 20 years, and especially during the last 10, our knowledge of the important relationship between dental and general diseases has made marked progress, dental pathology has made rapid strides, and the practice of dentistry has become more and more surgical in character and less and less mechanical, and there is every indication that the purely surgical aspect will continue to grow. Dentistry, therefore, at the present time demands that the surgical and medical training should be greater than the mechanical. The curriculum, however, has not moved with the gradual evolution of dentistry, for although the Royal College of Surgeons of England has reduced the mechanical training to two years, the time still allotted equals that given to the more important part of the training—namely, the surgical and medical. Without wishing to enter into detailed reasons, it seems to us more in keeping with the actual knowledge required of the dental surgeon that the time allotted to the mechanical training should be reduced and that given over to the medical and surgical training lengthened. In connexion with the general and dental hospital training it does not seem rational that these should be taken concurrently, for it is unwise to try to learn a specialty before the ground principles of medicine have been mastered. The training would be more rational, and without doubt more efficient, if the instruction at the general hospital were completed before the special study of dental diseases is undertaken, and it would be well if the hospital course included instruction in general pathology.

THE LIABILITY OF AN EDUCATION AUTHORITY FOR ACCIDENTAL INJURY TO A PUPIL.

A CURIOUS case of accidental injury to a child attending a public elementary school at Darnall led recently to an action in the Sheffield county court against the Sheffield Education Authority. The desks used in the school were of a type described as "dividing desks," a portion of which apparently is hinged to the rest and capable of being raised. These had been in use without any recorded accident for 20 years. The plaintiff, a child 6 years of age, managed to insert the tip of the little finger of his left hand in a hole in the hinge of the desk in front of him, and when on the order "to push up desks" being given by the teacher the moveable portion of the desks was raised his finger was caught and injured, a portion of the tip about equal to the length of the nail being torn off. The child was treated at the infirmary, so that no medical attendance had to be paid for, and the evidence did not predict any serious loss of power in the hand; the injury to the finger-tip was disfiguring and the child had suffered pain. The jury awarded £10 damages to the plaintiff against the Education Authority, which presumably implies that they were of opinion that the type of desk used was dangerous, as to which there was evidence that the hole in which the child inserted his finger was not a necessary feature in the hinge. A point of law as to the liability of a local education authority for such an accident occurring in a non-provided school during the hours devoted to secular instruction was argued and was decided by his honour Judge Benson in favour of the plaintiff. Stay of execution was granted when judgment was given in the child's favour so the question as to what may constitute evidence of negligence in a case of this kind, as well as that of the responsibility of the education authority, may be raised again in the Divisional Court. Whatever the final result may be, however, the case shows what extreme care is necessary on the part of school managers to prevent the presence of anything in a school building or playground that is capable of leading to an accident. Certainly no one who has the duty of examining in any capacity the fittings and apparatus used should be reproached with "fussiness" or excess of zeal, because he points out the possibility of an ingenious or careless child being hurt by something which for years has proved harmless to his fellows.

THE POSITION OF INSPECTORS OF NUISANCES.

SOME additions are made by the new Order of the Local Government Board with regard to public health administration[1] which, while they relate to the duties of the inspector of nuisances, are of great general interest and of far-reaching importance in public health. The inspector of nuisances is now required, if so directed by the council, to remove cases of infectious disease to hospital and to disinfect infected premises. He is also, if so directed, to act as inspector of canal boats and as officer under the Canal Boats Acts, 1877 and 1884. Another duty devolving on the inspector is to furnish annually to the medical officer of health a tabular statement as to the inspections made by him, the number of statutory and other notices served, and the results of such service, data which it is presumably intended should be embodied by the medical officer of health in his annual report. With respect to the work of inspectors of nuisances, the Board takes the view that in places with a population of over 10,000 it is generally desirable that the inspector should devote his whole time to his duties, but in smaller districts the opinion is expressed that the inspector may act as surveyor under the Public Health Act, 1875, as inspector under the Infant Life Protection Act, under the Shop Hours Acts, or the Factory and Workshops Acts, or as assistant officer under the Unsound Food Regulations. He may also act as superintendent of scavenging. All these changes make for the appointment of better qualified and whole-time inspectors, and as such are steps in the right direction.

TWO RAPID METHODS OF STAINING THE SPIROCHÆTA PALLIDA.

A SUBSTITUTE for the ordinary Giemsa method of staining the spirochæte of syphilis is described by Dr. E. Klausner in the *Berliner Klinische Wochenschrift* of Jan. 23rd. The staining reagent is prepared in the same manner as in the Gram method of staining bacteria. Three cubic centimetres of anilin oil are shaken with 20 cubic centimetres of distilled water for five or ten minutes, and the emulsion so prepared is filtered through a moistened filter-paper. To the clear fluid thus obtained half its volume of a concentrated alcoholic solution of gentian violet is added. The serum or secretion to be investigated is spread out in thin parallel smears along an ordinary microscopic slide and fixed by holding over a 1 per cent. solution of osmic acid for one or two minutes. The gentian violet solution is then poured over the specimen and it is heated for 20 to 30 seconds over a flame. The stain is then washed off with water; the specimen is dried and examined microscopically with an oil immersion lens. The spirochætes are rendered clearly visible by this means, appearing reddish blue against a rose-coloured

[1] THE LANCET, Jan. 21st, p. 175.

ground. The spirochæta refringens is more deeply stained and can be differentiated. Dr. Klausner claims for this method that it is rapid and reliable, that the reagent is easily prepared, and that it will keep for one or two months. He lays great stress upon the strength of the gentian violet, believing that that recommended by him gave the most satisfactory results. Another method is described by Dr. Albert A. W. Ghoreyeb.[1] A smear preparation is made and fixed by exposure to a 1 per cent. aqueous solution of osmic acid for 30 seconds. It is then washed in water and covered for 10 seconds with a solution consisting of liquor plumbi subacetatis diluted 100 times with distilled water. It is again washed and covered for 10 seconds with a 10 per cent. aqueous solution of sodium sulphide. It is then washed and the whole process is repeated twice, the osmic acid solution is then applied for 30 seconds, the specimen is washed in water, dried, and mounted in balsam. Spirochætes, bacteria, and cellular débris are stained black by this method.

NEW CHEMICAL LABORATORIES AT UNIVERSITY COLLEGE, LONDON.

IN April of last year we brought before our readers an appeal for £70,000 for providing new chemical laboratories at University College, London, including the purchase of a site in Gower-place; and in November we drew attention to the urgency which then existed for the collection before Christmas of £25,000 (the cost of the site) in order that the Senate of the University might be in a position to exercise its option of purchase. By Dec. 10th a sum of £10,000 had been raised towards the required amount, but the total sum was not forthcoming at Christmas. The option to purchase was, however, extended to Jan. 31st, and we are now able to state with much pleasure that the fund has been completed by a generous gift of £4500 from Mr. Ralph C. Foster, and the option on the site has been exercised. Prince Arthur of Connaught now appeals for subscriptions towards the second object, the erection of the building. For this purpose it is estimated that a sum of between £45,000 and £50,000 will be required, and it is hoped that the generous example of all those who have already contributed to the fund for purchasing the site will be followed by other public-spirited citizens so that the cause of scientific research may be advanced in a manner worthy of London. There are cogent reasons why this appeal should find a generous response, for a debt is owed by the public to Sir William Ramsay and his co-workers in the University College laboratories. The application of radio-activity to human needs has become possible largely through their labours and researches, and they are entitled to ask for relief from their present hampered accommodation, in order that they may pursue their labours in adequate and well-equipped laboratories.

IN view of the great practical importance of the newer methods of investigating cardiac disease, especially by the record of the electric changes in the heart with the string galvanometer, the general committee of University College Hospital, London, has established a special cardiographic department, and has placed it in the charge of Dr. Thomas Lewis, whose work in this direction is so well known.

FOUR lectures on Plague (the Gresham Lectures, 1911) will be delivered on Feb. 14th, 15th, 16th, and 17th by Dr. F. M. Sandwith, Gresham Professor of Physic, at the City of London School, Victoria Embankment, E.C. (three minutes' walk from Blackfriars Bridge). The lectures are free to the public, and will begin each evening at 6 o'clock.

THE Hunterian Oration of the Hunterian Society will be delivered at the London Institution, Finsbury-circus, E.C., on Wednesday, Feb. 8th, at 8.30 P.M., by Dr. J. H. Sequeira, on the Progress of Dermatology since Hunter's Time.

PARLIAMENT opened on Tuesday, Jan. 31st, with the election of the Speaker.

[1] Publications of the Massachusetts General Hospital, vol. iii., No. 2, p. 367, a paper reprinted from the Journal of the American Medical Association, May 7th, 1910.

ANNUAL REPORT FOR 1909 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

I.

AMONG many important matters discussed in Sir Shirley Murphy's report, upon which we commented briefly in a leading article in THE LANCET of Jan. 14th, attention is once more directed to the difficulty experienced by sanitarians in estimating populations for periods remote from the census. The difficulty is considerable where the area is large, such as that of the County of London. Where the areas are smaller, like those of the metropolitan boroughs, the difficulty is greatly increased, whilst it is well nigh insuperable in the case of foreign cities, concerning which the necessary particulars are seldom available.

Natural Increase by Excess of Births over Deaths.

In existing circumstances it is probable that the most reliable measure of vitality will be attained by ascertaining the *natural increase of a population*—i.e., the difference between the births and the deaths occurring in a given period. The *actual increase of a population* cannot be estimated, even approximately, otherwise than by taking account, among other factors, (*a*) of the difference between emigration and immigration, (*b*) of the varying sex and age constitution of the people, and (*c*) of the balance between births and deaths. Consequently, at the present distance from the 1901 census, any estimate of the actual increase of the population must partake of the nature of guesswork. The comparability of separate communities, as regards the natural increase of their populations, is sometimes affected by migration. It may also be affected even more seriously by differences in the age and sex constitution of the living. Nevertheless, the combined effect of these disturbing agencies can hardly suffice to vitiate general comparison of the crude rates of natural increase as among separate communities.

From a table exhibiting the local rates of natural increase it appears (1) that in all the largest English towns except Hull the rate of increase in 1909 was below that of the preceding five years, and (2) that in the same year the rate exceeded that of London in six of these towns, and was below it in seven others. From another table comparing the rate of increase in London with that of the chief foreign cities we learn that the rate was above that of London in Amsterdam, Copenhagen, and New York, but below it in seven other cities—the lowest rate obtaining in Paris, where it was only 0·3 per 1000. We further learn that in 1909 the excess of births over deaths was below the quinquennial average in all the chief foreign cities except Copenhagen, St. Petersburg, and New York. With reference to this table Sir Shirley Murphy remarks that where the populations concerned are of different nationality the factors affecting the rate of natural increase tend to vitiate comparison even more seriously.

Continued Fall of the London Marriage-rate.

Concerning the proportion of marriages among Londoners the county medical officer remarks that in the year under notice it was only 15·8 per 1000 living—a rate which is not only the lowest on record, but is below the mean rate in 1851–60 by 4·8 per 1000. Throughout the closing 30 years of the last and the first nine years of the current century there has been an almost uninterrupted decline in the London marriage-rate. For many past years the proportion

of minors in 100 marriages at all ages has been diminishing steadily. In the year under review 3·1 per cent. of the husbands and 11·1 per cent. of the wives were under the age of 21 years, the percentages in the decennium ended 1890 having been 18·9 and 20·8 respectively. Calculated on the total number of marriageable persons—i.e., on the unmarried and widowed portions of the community aged 15 years and upwards—the London marriage-rate has declined during the last 37 years by not less than 27 per cent.

Decline in the London Birth-rate.

The decrease in the birth-rate of the metropolis noticed in previous reports has continued through the year 1909, when the proportion did not exceed 24·2 per 1000 living at all ages; this is the lowest rate recorded since the establishment of civil registration, and is lower by 11·2 per 1000 than the rate in 1861–80, in which decennium the birth-rate attained its highest point. In this connexion Sir Shirley Murphy quotes a recent statement by the Registrar-General to the effect that as compared with 1870–72 the London birth-rate in 1909, calculated on the female population aged 15–45 years, has declined by 34·0 per cent. By means of another table the birth-rates of London are compared with those of other large English towns and cities. In the calculation of rates for this table the births in the principal lying-in institutions have been referred to the districts from which the mothers originally came. Another table is presented showing the rates of legitimate births in each metropolitan sanitary area in every 100 married females between the ages of 15 and 45 years. From this table it appears that the legitimate birth-rate ranges from 13·1 per cent. in Hampstead and 14·7 per cent. in Holborn, to 24·7 per cent. in Bethnal Green and 25·5 per cent. in Bermondsey. In another table the London birth-rate is compared with that of other large English towns, and from this it appears that in the year under notice the London rate was exceeded in nine out o 13 of the chief English towns, the remaining four alone showing rates below that of London. In contrasting the decrease of birth-rate in the different towns it is necessary to bear in mind that the value of these rates depends on the accuracy of the population estimates, which may, and probably does, vary considerably. In yet another table it will be seen that the decrease in the birth-rate which still persists in England and Wales is shared by all the principal foreign capitals, and that the birth-rate of London still compares not unfavourably with that of the majority of those capitals.

Relation of Fertility to Social Condition.

With respect to the standard adopted for the purpose of grouping sanitary districts in order of social condition the following facts are important. In tables going back to 1901, or in tables published in previous reports, the grouping of London districts in five groups of differing social condition has been based on the percentage of persons living in overcrowded tenements of less than five rooms, as shown by the latest census returns. But in tables appearing for the first time in the present report, or in tables dealing with figures for recent years only, the grouping is based on the proportion of children aged from 5 years to 14, scheduled for education purposes in the schools of the County Council. According to the latter classification we observe that Group I. consists of districts where the proportion of children scheduled for education purposes is less than 79 per cent., Group II. from 79 to 85 per cent., Group III. from 85 to 91 per cent., Group IV. from 91 to 97 per cent., and Group V. where the proportion exceeds 97 per cent. In this connexion, however, it is important to realise the fact that the proportion of children thus scheduled can only be ascertained by relying on an estimated total of children at school ages in each borough, and that these estimates are based upon the population of 1907 calculated for purposes of rate equalisation. Consequently, if there has been a movement of population limited to persons of one social grade it is obvious that the resulting comparisons will be to some extent affected. It is common knowledge that the fertility of married women decreases with advancing age; accordingly a comparison of the fertility rates of different sections of a community will be affected to a considerable extent by differences in the age constitution of married women in each community. Among married women in the poorer metropolitan districts the percentages living at the younger ages are higher than in the districts of a better class. With the object of correcting as far as possible for these differences, a factor has been calculated, based upon observations made in Sweden during the period 1891–1900, of the number of accouchements at certain ages among married women between the ages of 15 years and 45. No similar figures for the United Kingdom are available for recent years, but the Swedish figures do not differ materially from those relating to Edinburgh and Glasgow for the year 1855. From a table showing the results of applying this correcting factor to the London figures for 1903–09 we gather that if the fertility-rate of the metropolis as a whole, corrected as here indicated, be taken as 1000, the corrected rate will range from 873 in the first or best group of districts, and 914 in the second group, to 1112 in the fourth group, and 1264 in the fifth or worst group.

Compulsory Notification of Births.

In October, 1909, the Local Government Board, at the instigation of the County Council, made an order declaring the Notification of Births Act to be in force throughout the metropolis, eight of the metropolitan borough councils having refused or neglected to voluntarily adopt the Act. Under the Board's order the County Council now receives intimation of the whole of the births notified in London to the borough medical officers of health. Comparison of the number of births notified under the recent Act, with the number registered under the Act of 1874, reveals the fact that in some boroughs the requirements of the Births Notification Act have not as yet been fully complied with, notwithstanding the efforts of the sanitary authorities to make those requirements known. In Southwark and Finsbury the number of births notified slightly exceeds the number registered; this is due to the circumstance that the average interval between birth and registration is considerably longer than the interval between birth and notification. In several of the metropolitan boroughs the excess of registered over notified births is noteworthy.

London Mortality in 1909.

In consequence of favourable meteorological conditions and of comparative freedom from excessive epidemic prevalence the mortality of London continued to be very low in the year under review. Corrected for age and sex constitution of the population, the rate was only 14·7 per 1000 of the living at all ages—a rate which, although higher than that of the preceding year, was lower by 1 per 1000 than the mean rate in the five years 1904–8. The rate of London was lower than that of any other great English town, except Bristol and Leicester, and was also lower than that of any of the chief foreign cities, except Brussels and Amsterdam.

Among the metropolitan sanitary districts the corrected death-rates continue to show the usual wide variation. Thus, in the year under notice, whilst the rate did not exceed 10·1 per 1000 in Hampstead and 10·8 in Lewisham, it rose to 20 per 1000 in Shoreditch and 22·3 in the City of London. In this series of reports the death-rates of the London sanitary areas are fully corrected for institutional mortality. In the text of the present report attention is again drawn to the circumstance that in calculating the rates of mortality the populations have been estimated on the assumption that the rate of increase observed in the last intercensal period has since been maintained. The validity of this assumption may well be questioned, especially in view of the fact that a period of eight years has elapsed since 1901, the date of the last census enumeration. Moreover, we must remember that emigration and the declining birth-rate of recent years, besides affecting the numbers of the population, have probably altered its age constitution, in many instances considerably, and it is obvious that for this disturbing agency no reliable correction can be made until the figures of the forthcoming Census are available.

The statistics already discussed in this article relate to the mortality at all ages; but the report contains additional tables in which the rates of mortality at several stages of life are compared with corresponding data in the preceding decennium. From one of these tables we gather that in the year under notice the rate of mortality at each age period of both sexes was considerably lower than the average in the preceding decennium, except at ages above 65 for men and at ages above 85 for women.

Saving of Life Expressed in Terms of "Life-Capital."

Sir Shirley Murphy again draws attention to the fact, emphasised in several of his previous reports, that a more accurate estimate than the foregoing of the effect on the community of fluctuations in mortality can be obtained by the use of a life-table. The advantages of that method with the formulæ employed in its application are set forth in detail in the London life-table appended to the report for 1901. From instructions contained in that document it appears that in order to apply this method it is necessary in the first place to ascertain from the life table the mean future lifetime of males and females in groups of ages corresponding to the age groups in which the deaths appear. With the help of the life-table for 1891–1900 this has been done for the purposes of the present report, which contains a table showing the mean future lifetime, or expectation of life, of males and females respectively at several groups of ages. Incidentally we observe that in London the expectation of life at birth amounts to rather more than 50 years for males and to nearly 54 years for females. In a further table the number of deaths occurring in the year 1909 is compared with the number that would have occurred had the death-rates of 1891–1900 been maintained in 1909. The number of lives gained in the latter period is also shown, and this gain is expressed in terms of "life-capital," which is obtained by applying the mean future lifetime to the number of lives saved at each group of ages. From this table we learn that in the year 1909, compared with the decennium 1891–1900 there has been a saving of 24,902 lives, representing a gain to the community of 1,080,784 years of "life-capital."

(To be continued.)

ROYAL SOCIETY OF MEDICINE.

A SPECIAL general meeting of Fellows of the Royal Society of Medicine was held at Steinway Hall, London, W., on Jan. 31st, when Sir HENRY MORRIS, the President, occupied the chair. The business before the meeting was the consideration of a communication from the council of the society to the Fellows in regard to the new premises of the society, to which it was proposed to add one storey.

A memorandum on the society's new premises signed by Sir Henry Morris pointed out that on Oct. 28th, 1910, the council of the Royal Society of Medicine entered into a contract with Messrs. Godson and Sons for the erection of a building of three storeys—i.e., ground-floor and first and second floors—at a cost of £27,286. This building included ample meeting room and sufficient library accommodation to last for many years—indeed, for as long as the present lease. The question of a third and a fourth floor was left undecided, but the council reserved the right to order an additional or third floor, according to the approved plans, and at a fixed price (£2051), and also the right at a later date to order another or fourth floor, according to plans approved, at a price fixed (viz., £2347)—that is, at a total cost of £4398 for the two additional floors. When the contract was signed the council did not feel justified in incurring more expense than was absolutely necessary for the immediate needs of the society. They hoped that before the limit of time fixed for the notice to be given for a third floor had arrived they might see their way to order an additional floor or floors, if thought advisable. A third floor would provide a more spacious common room for the use of Fellows, a room in which to conduct the examination of morbid growths and other specimens, a room for the use of the president and presidents of sections, a secretaries' room (including writing and conference conveniences for the sectional secretaries), and a Fellows' smoking-room. Some or all of these rooms would also, when required, provide additional storage for books. These rooms were all desirable for the full and satisfactory working of the society from the outset, and should be provided if possible. If the notice to erect the third floor was given on or before Feb. 7th the cost would be £2051. If the additional floor was not built now, and the Fellowship of the society increased and new sections were formed, it would certainly become necessary within a few years. The cost would then be at least £4000, and the building operations would necessitate the closing of the society's house for nine months or longer. The council were of opinion that the erection of the third floor was desirable, but they sought to ascertain the opinion of the Fellows before giving notice to the architect, as they must do, on or before Feb. 7th, if the work was to be carried out. The total cost of the building would then be under £30,000. The building fund at present stood at a total of between £10,000 and £11,000, made up as follows: Donations and subscriptions already received, £6725 16*s.*; donations and subscriptions promised, £2519 18*s.*; debentures surrendered, £1450. As only 678 Fellows and members had contributed to that amount, the council appealed to each of the remaining 2700 to help, by subscribing a sum of from 1 to 5 guineas annually for three or five years. In this way a large portion of the balance required might be provided before the building was finished. It should be remembered that before the amalgamation many Fellows belonged to several societies, and paid in annual subscriptions—few less than £5 5*s.*, many as much as £10 10*s.*, and even more. As these Fellows now obtained much greater advantages for a subscription of £3 3*s.*, it was hoped that they would make a special effort, in the manner suggested or in some other way, to bring up the building fund to the requisite amount.

Sir HENRY MORRIS said that the memorandum which had been circulated contained a full account of the whole matter. He particularly emphasised the fact that the proposal was a financially sound one, and went on to assure the Fellows that there was not the slightest intention of the new premises being used in any way as a club-house. On the contrary, the whole of the building would be used strictly and entirely for scientific purposes.

Sir THOMAS BARLOW, President of the Royal College of Physicians of London, then submitted a motion confirming the resolution of the council as to the desirability of building an additional storey, and he pointed out that in his opinion the plan commended itself as business-like and as dealing with the pressing needs of the Society in a satisfactory manner. He was sure he expressed the sentiments of a large number of Fellows in stating his satisfaction at hearing that in the new building every part of it would be used for the needs of the society itself, and that the premises would not in any way constitute a club-house.

Mr. BUTLIN, President of the Royal College of Surgeons of England, in seconding the proposal, said that it would be absolutely ridiculous on the part of the society to hesitate to face the financial liability incurred in building the additional storey.

Mr. G. H. MAKINS and Dr. C. THEODORE WILLIAMS supported the motion, and Dr. W. HALE WHITE was instrumental in the secretary of the society demonstrating to the Fellows on a large plan the particular storey concerning which the motion was put forward.

After Sir WILLIAM CHURCH had explained, in reply to some remarks of Mr. L. A. BIDWELL, that the necessity for establishing the present financial arrangements of the society was to be found in the need of financing the society on an annual subscription of 3 guineas from each Fellow, the resolution proposed by Sir Thomas Barlow was duly voted for and carried *nem. con.*

PUBLIC HEALTH IN THE STRAITS SETTLEMENTS.

THE report on the medical department of the Straits Settlements for 1909 is somewhat late in its appearance; but this is not at all to be wondered at when we consider how extremely scattered is the collection of districts or provinces to which it refers. The principal medical officer, Dr. W. Gilmore Ellis, has his headquarters at Singapore, and presents his report in the form of a very short condensation of the various provincial reports, which are given *in extenso* in a series of appendices. The total population was estimated at 636,691, the birth-rate being 26·69, and the death-rate 37·53 per 1000; it is stated that the birth-rate has declined in all the settlements, also that the death-rate was the lowest since 1899. No comparative statistics are given relating to previous series of years; perhaps they are not available, owing to changes in the areas and populations of these provinces. The four "settlements" constituting the colony are, or rather were, at the beginning of 1909—(1) the island of Singapore; (2) the island of Penang; opposite which, on

the mainland of Malacca, are (3) Province Wellesley, and further south the district of the Dindings; further south again (4) Malacca, the largest of the settlements. The island of Labuan, off the north-west coast of Borneo, is also included in the administration of the colony.

Vital Statistics.

Of the zymotic diseases, cholera caused 76 deaths (out of 84 cases), all in Singapore; of plague there were but 5 cases (all fatal), also at Singapore; of small-pox, 62 cases and 11 deaths. Of enteric fever there were 235 cases and 89 deaths in Singapore, a smaller number than in either of the two years preceding; but it is stated that the figures cannot be relied on, as many cases are probably included under "fever unspecified." Beri-beri caused 873 deaths in Singapore, a markedly smaller number than in 1907 or 1908; in Malacca there were 219 deaths, and in Penang 399 deaths, neither of these figures showing much improvement. Phthisis prevails to a considerable extent, having caused 2659 deaths, a lower figure, however, than in the two years preceding. Dr. Ellis considers that this high mortality is likely to continue until some practical measures are put in force in the large towns to lessen overcrowding, improve ventilation, and remove advanced cases. Malaria is credited with 2589 deaths, of which 1670 occurred in Singapore; but it is admitted that the figures are quite unreliable. It is not possible to form any satisfactory opinion as to the condition and progress of the public health from the figures presented in this report, as mere numbers give no intelligible idea unless expressed as a ratio to the population. Perhaps the information is not available for any long series of years on account of the changes that have taken place in the areas and populations of these provinces. We do not understand, however, why no ratios are given for the older settlements, such as Singapore and Malacca, the populations of which are presumably known with some degree of accuracy. No information is given as to race or nationality in any of the returns, except those relating to lunatic asylums; this materially detracts from their interest.

The health statistics of the Singapore jail were satisfactory. No case of beri-beri originated in the prison; this in the third year in succession in which this immunity has occurred; the total death-rate was 28·3 per 1000. In the municipality generally the rate was 38·56, showing a considerable improvement on the mortality ratio for 1908, when it was 46·78. In Penang Island the chief causes of death were phthisis, malaria, fever, and beri-beri; 901 deaths occurred from phthisis, rather fewer than in 1908, when there were 917, but more than in any of the four years preceding; the highest mortality previously having been 674 in 1906; no explanation is given of this great increase within the last two years. Malaria also was less fatal (712 deaths) than in 1908, when there were 820 deaths, but more severe than in any of the four years preceding; no explanation is suggested for this. The next most fatal disease was fever of unspecified nature, accounting for 432 deaths; under this heading there has been a continuous improvement since 1904, when the mortality amounted to 1111; we suppose more cases have been returned as "malarial" in recent years. Some anti-malarial operations have been undertaken in the way of filling in ditches and low-lying areas of land, draining ponds, oiling ponds, and extending the drainage system. Two deaths occurred from small-pox: one was that of a European lady landed from Rangoon at the quarantine camp; she was suffering from hæmorrhagic small-pox in a malignant form, and bore no marks of vaccination. Dr. J. Kirk, reporting on the ophthalmic work at the Penang District Hospital, again alludes to the large number of cases of trachoma treated, 38 in all; he considers it to be responsible for 80 per cent. of the eye trouble and blindness which exist in the station. Mr. D. M. Ford was in charge of the leper asylum at Pulau Jerejak; the average number of inmates was 396, the largest ever recorded. Whether this was due to spread of the disease or increased stringency in sending patients to the asylum we are not informed; no explanation is offered of this, on the face of it, important fact, which would appear to be disquieting and worthy of notice. The health of Wellesley province is reported by Dr. W. S. Sheppard to have been fairly good in 1909; there was no serious epidemic. On some estates in the south, however, there has been a prevalence of dysentery greater than in former years. The food- and water-supplies have received attention, and the only cause Dr. Sheppard can suggest is adulterated toddy; it is frequently only the adult Tamils that suffer, while Javanese and Chinese escape. The death-rate for Malacca province was 41·46 per 1000, practically the same as the birth-rate, which was 41 03; in the previous year the death-rate was even higher, 47·88; of the deaths, more than half were due to fever, malarial or other; and 30 per cent. were in children under one year, 1036 being due to convulsions. The bulk of the population consists of Chinese and Malays. Beri-beri caused 52 deaths; it is stated that parboiled rice is now used in the various Government institutions. One fatal case occurred at a police depôt; the victim, a sub-inspector, had been warned against Siam rice, but refused to alter his diet.

Various Matters.

As regards general sanitation we are not afforded much information. The question of sewage disposal in Singapore is not yet finally settled; an expert from home was called in during the year, and his report is now under consideration. Of nine samples of water analysed from Singapore, one was found to be highly contaminated by sewage and five consisted "for the most part of oxidized sewage."

There is a Government medical school at Singapore, giving the full curriculum for the Licence in Medicine and Surgery, attended by 72 full course students, mostly Tamils and Chinese; the results of the examination were satisfactory, except in the subject of pharmacy, for which a new lectureship has now been established. Graceful acknowledgment is made to Major E. M. Pilcher, R.A.M.C., and Dr. G. A. Finlayson for their enthusiasm and thoroughness in teaching clinical surgery and medicine.

The meteorological statistics supplied are meagre, inasmuch as they do not give any information whatever as to the normal conditions, as deduced from a series of years; neither is anything said as to the localities where observations are taken. Singapore had a rainfall of 110 inches and a mean temperature of 82·4°; at Penang the rainfall was 130 inches and the mean temperature 81·7°. For Province Wellesley, that is presumably Georgetown, 220 inches of rain were registered, and a mean temperature of 83·3°. Malacca had a rainfall of 87 inches and a mean temperature of 81·3°. Labuan is out of the zone of high rainfall, and had only 9·5 inches, with a mean temperature of 83·4°.

The preparation of this report has entailed great labour, and we are appreciative of the large amount of information conveyed in small space. Some attempt at generalisation and advancing the boundaries of knowledge in regard to tropical pathology in these somewhat remote regions would have been welcomed. We are surprised that no mention is made of the large addition of territory that took place in the early part of the year to which this report refers; an area of some 15,000 square miles, with a population of about half a million, was transferred by Siam to the British Government, a circumstance, we should have thought, that would have given occasion for some action and report on the part of the public health authorities of the colony.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Jan. 26th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the required examination were admitted Members of the College: John Hay Burgess, M.D. Lond., L.R.C.P. (Captain I.M.S.), Lancelot Stephen Topham Burrell, M.B. Cantab., L.R.C.P., Frank Clayton, M.B. Cantab., L.R.C.P., David McCay, M.B. Roy. Univ. Irel. (Captain I.M.S.), Bidhan Chandra Roy, M.D. Calcutta, L.R.C.P., and Ernest Edwin Waters, M.D. Edin. (Major I.M.S.).

Seventy-five gentlemen who had passed the requisite examinations were granted licences to practise medicine.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England to the following:—Scott Campbell Adam, Claude John Eddowes Bennett, Harold Boulton (Major I.M.S.), Herbert Maughan Brown, Percy Norman Cave, Roderic Arthur Clapham, Alexander Dawson (Captain R.A.M.C.), Kali Charan Dube, John Henry Jones, Charlotte Alice King (under the Medical Act, 1876), James Fitz-Gerald Martin (Captain R.A.M.C.),

Lawrence Pick, Arthur Meurig Pryce, Thomas Edwin Pryce, Norman Emil Henry Scott (Captain I.M.S.), Sidney Francis St. Germain Steadman, Sidney John Steward, Charles Henry Straton (Captain R.A.M.C.), May Thomson (under the Medical Act, 1876), Sydney Arthur Tucker, and Charles Wilfred Vining.

The following communications were received: 1. From the Secretary of the Royal College of Surgeons of England, reporting proceedings of the Council of that College on Dec. 8th and Jan. 12th last. 2. From the Director-General of the Medical Department of the Navy, reporting that Sir Gilbert Blane's medals had been awarded to the following officers: Fleet-Surgeon G. T. Collingwood, M.V.O., and Fleet-Surgeon A. R. Bankart, M.V.O. 3. From the Assistant Secretary to the Marine Department, Board of Trade, inviting the College to nominate a representative on a committee for revising the scales of medicines, &c., for merchant ships. The President nominated Dr. N. I. C. Tirard. 4. From the Registrar-General, concerning the substitution of the International List of Causes of Death for the list hitherto in use at the General Register Office. 5. From Mr. Alfred Parsons, asking permission to have a reproduction made of the late Dr. J. F. Payne's portrait. The request was granted. 6. From Professor Osler, on behalf of Dr. Harvey Cushing, asking permission to have the portrait of Vesalius photographed. This request was also granted. 7. From the University of St. Andrews, inviting the College to send a delegate to the celebration of the 500th anniversary of the University in September next. The President was requested and consented to represent the College. 8. From the Royal Sanitary Institute, inviting the College to send a delegate to its Congress at Belfast in July next. The Right Hon. Lord Ilkeston was nominated. 9. From the British Medical Association, concerning diseases of the eye as a compulsory subject for the curriculum and examination. The matter was referred to the Committee of Management.

The PRESIDENT announced that he had nominated Dr. C. Theodore Williams as Harveian Orator, and Dr. Graham Steell as Bradshaw Lecturer for 1911; also, that the Council had appointed Dr. F. A. Bainbridge as Milroy Lecturer for 1912.

The Right Hon. Lord Ilkeston, Sir H. Bryan Donkin, Dr. R. Caton, and Dr. J. Phillips were elected councillors.

Sir Dyce Duckworth was re-elected a representative of the College on the council of Queen Victoria's Jubilee Institute for Nurses.

Sir Francis Champneys was appointed a representative on the Central Midwives Board for one year from April 1st next.

A report was received and adopted from the representative of the College on the General Medical Council on the proceedings of the Council during its session in November last.

After some further business, the PRESIDENT dissolved the Comitia.

DONATIONS AND BEQUESTS.—The late Mrs. Sarah Jenkins, of Edgbaston, Birmingham, has among other bequests left by will £500 each to the Royal Orthopædic and Spinal Hospital, Birmingham, and the Birmingham and Midland Free Hospital for Sick Children; £350 to the Birmingham and Midland Skin and Urinary Hospital; £250 each to the Birmingham General Hospital, the Queen's Hospital, Birmingham, the Birmingham and Midland Hospital for Women, the Birmingham Lying-in Charity and Maternity Hospital, the Birmingham and Midland Counties Sanatorium, Blackwell, Worcestershire, and the Birmingham and Midland Eye Hospital; £200 each to the Birmingham Branch of the Royal Society for the Prevention of Cruelty to Animals, the Birmingham District Nursing Society, the Moseley Hill Convalescent Home for Children, near Birmingham, Dr. Barnardo's Homes (Birmingham Branch), and the Dental Hospital, Birmingham; and £150 each to the Birmingham Branch of the Royal Institution for the Instruction of Deaf and Dumb Children, and the General Institution for the Blind, Edgbaston.—The late Miss Hampson of Radcliffe has left £1000 to the Manchester Royal Infirmary, £1000 to the Bury Infirmary, £1000 to the Southport Infirmary, £1000 to the Pendlebury Hospital for Children, and £1000 to the Trustees of the Radcliffe and Whitefield Relief Fund for Consumptives, besides other charitable bequests.—The late Miss C. C. Williams of Falmouth has bequeathed £6000 to the Royal Cornwall Infirmary.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Report of the Health Officer of Calcutta for the Year 1909.—Dr. T. F. Pearse, health officer to the corporation and special health officer for plague, Calcutta, in his report for 1909 follows his usual mode of procedure, noticing in detail the meteorological data, the vital statistics, and the special diseases occurring during the year. He gives an interesting account of an outbreak of beri-beri or epidemic dropsy. It is now our pleasure to review the interesting facts he has collected. Dr. Pearse in his report for 1908 drew attention to the fact that the climate was on the whole cooler and drier than usual, the lessened humidity being a special feature. Concurrently with these meteorological conditions the year was an exceptionally healthy one, the estimated mortality being lower than for ten years previously. But in 1909 the meteorological conditions were different. The earlier part of the year was hotter and drier than usual, and the rainfall exceptionally small, but during the second quarter the humidity and rainfall were in excess. During the latter part of the year the humidity was of about the average, so that generally the humidity was distinctly higher and the atmospheric conditions not so favourable. The health officer points out that the vital statistics are entirely dependent upon the accuracy of the registration of deaths and upon the corrections made after inquiry into the cause of deaths as given at the several burning ghats and burial grounds. That these corrections are important is shown by the experience that nearly 50 per cent. corrections have to be made in the returns as given by the latter. Inasmuch as the causes of deaths are dependent upon the haphazard opinion of the individuals who happen to register each death, Dr. Pearse very rightly protests against any attempt to reduce his present small staff, as such reduction would inevitably be followed by a vitiation of the statistics which would render them practically worthless. He does not hesitate to say that the mortality returns before the year 1903 are of little value. The total number of deaths during 1909 was higher than in the previous year, but the increase was chiefly due to the larger mortality for small-pox, plague, and epidemic dropsy. Excluding these, the general mortality was in fact lower. The "crude" rate, moreover, is not really the correct one, since no allowance was made for the increase of population as regards the excess of males, of young adults, and the comparative paucity of children. The death-rate may in reality be taken as 28·7 per 1000, and is only slightly higher than in 1908. It compares favourably with that of Bombay, 35·5 per 1000. There was an excess of deaths amongst the females in every part of the city, in every district as well as in every ward. Bowel complaints gave a marked improvement, due no doubt to the recent drainage operations. These latter diseases were nearly double in the suburbs compared with the city. Malaria gave a lower mortality during the wet season. The cholera death-rate was 2·3 per 1000; that for small-pox 4·4 per 1000. This disease showed a severe outbreak in the spring of 1909; the severity is shown by the contrast with the mortality rate of the previous five years—viz., 1·2 per 1000. Vaccination was consequently performed to a much greater extent, 88,306 operations having been performed. An extremely interesting section of the report deals with an outbreak of beri-beri or epidemic dropsy. Dr. Pearse, as is well known, has strongly advocated the identity of these two diseases, and has adduced potent arguments in favour of his theory. In the account of the epidemic he details the symptoms, and draws attention amongst other points to the mode by which death is brought about—namely, by nervous disturbance of the heart's action. He also ably discusses the question as to the identity or non-identity of the two affections, and finally considers its causation, whether it be caused by some adulterant or poison contained in the food, or whether it is an acute specific communicable disease. His own opinion favours the latter supposition. With respect to malaria, the Calcutta corporation sanctioned the appointment of ten mosquito brigades for six months. Work was started with these on Oct. 1st. A large amount of work was effected with regard to the bacteriological examination of the Hoogli river water, of the filtered water-supply, and the analysis of foodstuffs. Many other points are mentioned in this

valuable report which space only forbids us to relate. It concludes with tabulated statements relative to the climate of Calcutta, death statistics, and deaths from various diseases. Dr. Pearse has produced as usual a most valuable exposition of the matters connected with his department.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 77 of the largest English towns 8232 births and 5310 deaths were registered during the week ending Jan. 28th. The annual rate of mortality in these towns, which had been equal to 14·3, 15·5, and 16·4 per 1000 in the three preceding weeks, declined to 16·1 in the week under notice. During the first four weeks of the current quarter the recorded death-rate in these towns averaged 15·6 per 1000. In London the mean death-rate during the same period was equal to 15·7 per 1000. The annual death-rates in the 77 towns during last week ranged from 6·8 in Hastings, 7·4 in East Ham, 8·4 in Handsworth, and 8·5 in Walthamstow and in Burton-on-Trent. The 5310 deaths from all causes in the 77 towns last week showed a decline of 101 from the number returned in the previous week, and included 461 which were referred to the principal epidemic diseases, against 392, 448, and 455 in the three preceding weeks; of these 461 deaths from epidemic diseases, 208 resulted from measles, 113 from whooping-cough, 58 (of infants under two years of age) from diarrhœa, 48 from diphtheria, 17 from enteric fever, and 17 from scarlet fever, but not one from small-pox. The fatal cases of measles, which had increased in the three preceding weeks from 160 to 204, further rose last week to 208, and caused the highest annual rates, 1·9 in Coventry, 2·6 in Bury, 2·8 in Grimsby, 2·9 in Sheffield, and 4·6 in Rotherham. The 113 deaths from whooping-cough also showed a further increase upon recent weekly numbers; the highest rates from this disease last week were 1·6 in Croydon, and 2·1 both in Norwich and in Warrington. The deaths of infants under two years of age attributed to diarrhœa and enteritis, which had been 56 and 68 in the two previous weeks, declined again last week to 58. The fatal cases of diphtheria, which had been 63 in each of the two previous weeks, declined last week to 48, of which 12 occurred in London and its suburban districts, 6 in Liverpool, 3 in Manchester and Salford, and 3 in Leeds. The 17 deaths referred to enteric fever exceeded the number in the previous week by 2; 5 were recorded in London, 3 in Manchester, and 3 in Bradford. The fatal cases of scarlet fever, which had been 31 and 20 in the two preceding weeks, further declined to 17 last week; 3 occurred both in London and in Liverpool, and 2 each in Portsmouth and in Cardiff. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospital, which had steadily declined in the 11 preceding weeks from 1882 to 1349, had further fallen to 1311 on Saturday last; 129 new cases of this disease were admitted to these hospitals during last week, against 154, 135, and 126 in the three preceding weeks. These hospitals also contained on Saturday last 891 cases of diphtheria, 310 of measles, 127 of whooping-cough, and 69 of enteric fever. The 1538 deaths from all causes in London last week (showing a decline of 75 from the number in the previous week) included 374 which were referred to diseases of the respiratory system, against numbers increasing in the four preceding weeks from 263 to 366. In the 77 towns 159 deaths resulted from different forms of violence, against 180 and 169 in the two previous weeks; and 427 inquest cases were registered. The causes of 41, or 0·8 per cent., of the deaths registered during the week in the 77 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London and in each of its eight suburban districts, in Manchester, Leeds, Bristol, Bradford, Hull, Nottingham, Leicester, and in 40 smaller towns; the 41 uncertified causes of death in the 77 towns last week included 6 in Liverpool, 4 in Stoke-on-Trent, and 3 each in Sheffield, Birmingham, and St. Helens.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 889 births and 576 deaths were registered during the week ending Jan. 28th. The annual rate of mortality in these towns, which had been equal to 16·6 and 14·8 per 1000 in the two preceding weeks, rose again to 15·7 in the week under notice. During the first four weeks of the current quarter the death-rate in these towns averaged 15·4 per 1000, and was 0·2 below the mean rate during the same period in the 77 English towns. The annual death-rates during last week in the eight Scotch towns ranged from 11·1 and 11·3 in Perth and Aberdeen, to 18·4 in Leith and 19·0 in Greenock. The 576 deaths from all causes in the eight towns last week showed an increase of 32 on the number returned in the previous week, and included 46 which were referred to the prineipal epidemic diseases, against 56, 51, and 43 in the three preceding weeks; these 46 deaths were equal to an annual rate of 1·3 per 1000, the highest epidemic rates being 3·3 in Paisley and 4·8 in Leith. Of these 46 deaths from the principal epidemic diseases, 14 resulted from whooping-cough, 14 from diarrhœa, 8 from diphtheria, 6 from scarlet fever, 3 from enteric fever, and 1 from measles, but not one from small-pox. The fatal cases of whooping-cough, which had been 18 and 20 in the two previous weeks, declined to 14 last week, of which 5 occurred in Glasgow, 3 in Dundee and in Leith, and 2 in Paisley. The 14 deaths attributed to diarrhœa (of which 10 were of infants under two years of age) exceeded by one the number in each of the two previous weeks. The deaths from diphtheria, which had been 14, 9, and 6 in the three preceding weeks, rose again to 8 last week, including 2 each in Glasgow, Paisley, and Leith. The 6 fatal cases of scarlet fever exceeded the number in the previous week by 4, and included 4 in Glasgow. Of the 3 deaths referred to enteric fever, 2 were returned in Glasgow and 1 in Paisley. The fatal case of measles occurred in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory system, which had been 98, 130, and 121 in the three preceding weeks, further declined last week to 117, and were 6 below the number returned in the corresponding week of last year. The deaths resulting from different forms of violence in the eight towns, which had been 26 and 15 in the two previous weeks, increased again to 20 last week; and 190, or 33 per cent., of the deaths occurred in public institutions. The causes of 21, or 3·6 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 77 largest English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,163,596, 597 births and 476 deaths were registered during the week ending Jan. 28th. The annual rate of mortality in these towns, which had been equal to 19·9 and 19·3 per 1000 in the two preceding weeks, rose to 21·3 in the week under notice. During the first four weeks of the current quarter the annual death-rate in the city averaged 20·0 per 1000, whereas in the 77 largest English towns during the same period the death-rate did not exceed 15·6, and in the eight principal Scotch towns the rate was 15·4 per 1000. The annual death-rate last week was equal to 27·5 in Dublin, 15·4 in Belfast, 25·3 in Cork, 22·6 in Londonderry, 20·5 in Limerick, and 11·7 in Waterford; in the 16 smallest of the Irish town districts the annual death-rate last week averaged 20·4 per 1000. The 476 deaths from all causes in the 26 towns last week showed an increase of 46 upon the number returned in the previous week, and included 25 which were referred to the principal epidemic diseases, corresponding with the number in the previous week; these 25 deaths were equal to an annual rate of 1·3 per 1000, corresponding with the rate from the same diseases in the principal Scotch towns. Of these 25 deaths from the principal epidemic diseases, 18 resulted from whooping-cough, 3 from diphtheria, 2 from enteric fever, and 1 each from measles and scarlet fever, but not one from small-pox. The fatal cases of whooping-cough, which had been 8, 9, and 11 in the three preceding weeks, further rose to 18 last week, of which 10 occurred in Dublin, 4 in Cork, 2 in Londonderry, and 1 each in Belfast and in Newtownards. Of the 3 fatal cases of diphtheria, a decline of 4 from the number in the previous week, 2 occurred in Belfast and 1 in Dublin. Both the deaths from enteric fever and the fatal case each of measles and scarlet fever were also

returned in Dublin. The deaths in the 26 towns referred to diseases of the respiratory system, which had been 96 and 105 in the two preceding weeks, further rose to 113 in the week under notice. The 476 deaths from all causes last week included 149, or 31 per cent., which occurred in public institutions. The causes of 23, or 4·9 per cent., of the deaths in the 26 towns last week were not certified either by a registered medical practitioner or by a coroner; the proportion of uncertified causes last week did not exceed 0·8 per cent. in the 77 English towns, and was equal to 3·6 per cent. in the principal Scotch towns.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified: — Deputy Inspector-General G. Welch to the *President*, for special service at Admiralty, reappointed, temporarily, on promotion. Staff-Surgeon: F. R. Mann to the *Terpsichore*, temporarily.

ROYAL ARMY MEDICAL CORPS.

Colonel T. J. O'Donnell, D.S.O., principal medical officer at Aden, has taken over duty as Principal Medical Officer of the First (Peshawar) Division. Colonel T. P. Woodhouse, Principal Medical Officer of the Scottish Command, has been granted two months' leave of absence with permission to travel in France and Switzerland. The following officers have been appointed Senior Medical Officers of the Coast Defences, as noted against their names: Lieutenant-Colonel R. P. Bond, Eastern; Lieutenant-Colonel G. Wilson, South-Eastern; Lieutenant-Colonel R. R. H. Moore, North Irish; Lieutenant-Colonel T. E. Noding, South-Irish; Lieutenant-Colonel H. M. Adamson, North-Eastern; Lieutenant-Colonel F. S. Heuston, C.M.G., Scottish; Lieutenant-Colonel R. E. R. Morse, Southern; Lieutenant-Colonel R. Kirkpatrick, C.M.G., South-Western; Lieutenant-Colonel A. Dodd, North-Western; and Lieutenant-Colonel P. C. H. Gordon, Western. Lieutenant-Colonel E. J. E. Risk, late administrative medical officer at Belfast, has taken over duties as Commandant and Director of Studies at the Royal Army Medical College, Millbank, in succession to Colonel D. Wardrop, C.V.O. Lieutenant-Colonel H. P. G. Elkington, from Queenstown, has been transferred to the Southern Command. Lieutenant-Colonel J. Maher, from Wynberg, has taken over charge of Queen Alexandra's Military Hospital, Grosvenor-road. Major F. J. W. Porter, D.S.O., from the recruiting staff of the London District, has been transferred to the Southern Command. Major C. R. Elliott, sanitary officer of the Third (Lahore) Division, has been granted eight months combined leave in India from Feb. 1st. Major S. de C. O'Grady has been transferred from Cairo to Khartoum. Major F. Ashe, from Colchester, has taken up duty as Specialist in Midwifery and Diseases of Women and Children to the Ninth (Secunderabad) Division. Major G. E. F. Stammers, from Tidworth, has arrived for a tour of service in India. Major H. J. M. Buist, D.S.O., has joined for duty at Pretoria. Major C. J. Gorman, D.S.O., has been appointed to the temporary command of the station hospital at Peshawar. Captain A. A. Sutcliffe, on arrival home from Straits Settlements, has been posted for duty to Alderney. Captain W. R. P. Goodwin, Captain H. E. J. A. Howley, Captain C. H. Furnivall, and Captain G. F. Rugg have arrived in India. Captain J. W. West, from Dublin, has been appointed Specialist in Advanced Operative Surgery to the Second (Rawalpindi) Division. Captain W. M. B. Sparkes has taken over duty as medical officer in charge of the staff and departments at Beggars Bush Barracks, Dublin, in succession to Major E. G. Browne, who has embarked for India. Major H. L. W. Norrington, from Chatham, has been detailed to embark for Malta in the transport ss. *Soudan* on Feb. 25th. Captain T. W. Browne has been granted six months' leave of absence from India. Captain J. Fairbairn, from Glasgow, has been detailed for a tour of service on the West Coast of Africa (Sierra Leone), embarking about the middle of February. Captain A. Dawson and Captain T. W. O. Sexton have arrived home on leave. Lieutenant J. D. Bowie has taken up duty in the Aldershot Command. Lieutenant H. H. Leeson, from Woolwich, has joined at Cairo.

INDIAN MEDICAL SERVICE.

Colonel G. W. P. Dennys, on return to India from leave, has been appointed Principal Medical Officer of the Bannu and Derajat Brigades, in succession to Brevet-Colonel J. S. Shearer, C.B., D.S.O., retired. Lieutenant-Colonel A. Buchanan, civil surgeon of Amraoti, has been appointed to officiate as Inspector-General of Civil Hospitals in the Central Provinces, in succession to the late Colonel J. A. Cunningham. Lieutenant-Colonel J. T. Calvert has been appointed to officiate as Principal of the Medical College at Calcutta during the absence on deputation of Lieutenant-Colonel F. J. Drury at Lucknow. Major R. H. Price has been appointed Specialist in Midwifery and Diseases of Women and Children to the Fourth (Quetta) Division. Major F. D. Browne, medical officer of the 112th Infantry, has been appointed to the Medical Charge of the 30th Mountain Battery and the Frontier Garrison Artillery at Kohat. Major W. H. Kendrick, civil surgeon of Nimar, has been placed on special duty under the orders of the Sanitary Commissioner of the Central Provinces. Captain A. W. Overbeck-Wright has been appointed Supernumerary Superintendent of the Agra Central Prison. Captain D. N. Anderson has received an extension of six months' leave of absence from India on medical certificate. Captain G. E. Malcolmson has been appointed to the charge of the Brigade Research Laboratory at Nowshera. Captain C. Shaw has been posted for duty in Burma. The services of Captain R. A. Chambers have been placed at the disposal of the Commander-in-Chief by the Government of India. Captain E. T. Harris has been granted furlough for one year home from India. Captain C. H. Cross has been appointed to officiate as Medical Officer in Charge of the 38th Dogras and to the Medical Charge of the 23rd Mountain Battery. Lieutenant W. D. Keyworth has taken over charge as Specialist in Midwifery and Diseases of Women and Children to the Sixth (Poona) Division, India.

TERRITORIAL FORCE.

Army Medical Service.

Lieutenant-Colonel and Honorary Surgeon-Colonel John Arnallt Jones, from the Sanitary Service, Royal Army Medical Corps (T.), to be Colonel, on appointment as an Administrative Medical Officer of a Territorial Division (dated Jan. 18th, 1911).

Royal Army Medical Corps.

For attachment to Units other than Medical Units.— Frederick William Price to be Lieutenant (dated Sept. 28th, 1910). Frederick Andrew Worsley Drinkwater to be Lieutenant (dated Dec. 1st, 1910).

DEATHS IN THE SERVICES.

Brigade-Surgeon Lieutenant-Colonel David Renton, A.M.S., of the 15th Hussars (retired), on Jan. 23rd, at his residence in Edinburgh, in his seventy-fourth year. He entered the service in 1864 as assistant surgeon, became surgeon in 1873, surgeon-major in 1876, and retired in 1884. After serving five years in India he took part in the Zulu War in 1879 (medal).

INDIAN MEDICAL SERVICE EXAMINATION.

The following are the names of the successful candidates, arranged in order of merit, at the recent competition for commissions in the Indian Medical Service, which was held at the Royal Army Medical College and at the Examination Hall, Victoria Embankment, on Jan. 23rd, 24th, 25th, 26th, 27th, and 28th:—

	Marks.
John Scott, M.B., Ch.B.Edin.	3691
Alister Ralph Speirs Alexander, M.B., B.S.Lond.	3502
Frederick William Hay, M.B., Ch.B.Edin.	3362
Indarjit Singh, M.B., B.C.Cantab.	3357
Sidney Milverton Hepworth, M.B., Ch.B.Leeds	3234
Harry Slater Cormack, M.B., Ch.B.Edin.	3240
George Tate, L.M.S.S.A. ...	3203
George Selby Brock, M.B., Ch.B.Edin.	
Edward Slade Goss, M.R.C.S., L.R.C.P....	3118
John Frederick Henry Morgan, M.R.C.S., L.R.C.P....	3111
Krishnan Gopinath Pandalai, M.R.C.S., L.R.C.P., M.B. Madras	3105
Jyoti Lal Sen, M.B. Calcutta	3035
Charles Albert Wood, M.B., B.S.Lond., M.R.C.S., L.R.C.P....	3012
Percival Sandys Connellan, M.R.C.S., L.R.C.P.	2914

THE OFFICERS TRAINING CORPS.

The Army Council has sanctioned the formation of a second section of a field ambulance to be added to the medical unit of the Dublin University contingent of the Officers Training Corps. It may be mentioned that owing to the rapid

development of the Trinity College contingent the formation of an additional infantry company was recently approved by the War Office. Considerable satisfaction is felt in higher military circles in regard to the progress made by this contingent of the Officers Training Corps.

THE HEALTH OF THE FRENCH ARMY.

The Paris correspondent of the *Times*, in a letter published in that journal on Jan. 28th, states that the report on the health of the French army for 1909 compares somewhat unfavourably with the corresponding report for the British army. The report shows that since 1902 there has been a steady increase of sickness among the troops, and that the maximum figure was reached in 1908. The effective strength of the French army for 1910 is 27,995 officers and 552,959 men. The proportion of men classed as "constantly sick" tends to increase. The "figures are regarded as a striking argument in favour of calling up for service only the most able-bodied elements among the population."

Correspondence.

"Audi alteram partem."

GIRLS' SCHOOLS, GAMES, AND NEURASTHENIA.

To the Editor of THE LANCET.

SIR,—I want to enlist your sympathy towards an aspect of the prevention of "nerves" which, I am sorry to know, is gaining ground among our best girls. It goes without saying that the greatest of all national questions is the training of the mind and body of the young through instruction and exercise, so that the work in the school may create a general state of "healthy-mindedness" for later life, and thus fit the child in the best manner possible for the domestic, social, and economic conditions of its subsequent career.

We all appreciate the fact that it is the essence of education to promote the development of moral character and to use the facts of human knowledge during school life, so that school experience may not only conduce to an ethical upbuilding, but that the growing mind may also accommodate itself to the intellectual and social requirements of the particular group to which the child belongs. My purpose is not to dispute the views of the schoolman or schoolwoman as to the disciplinary advantage of the humanities and Greek (admittedly for the *élite* of schoolboys only) in school education, or to discuss the value of linguistic teaching for the requirements of modern life and thought. This has already engaged the lay press during the period of head masters' and mistresses' congresses, but as a student of psychology and of morbid mental states I have another and a more serious quarrel with the educationists of to-day, and I think high medical opinion is with me. Mainly my quarrel is with those who have the care and education of our girls, and whilst acknowledging that broadly speaking the materials of instruction for both sexes are of two kinds—viz., those which, owing to their uncertainty and want of exactness (history and literature) demand the exercise of caution and judgment in comparing probabilities, and those others (mathematics and the natural sciences) which deal with what is precise and certain—thus producing a more exact and definite exercise of the reasoning powers; it is not this "knowledge-material" which I call into question, but the method of imparting it to the growing individual by a practically continuous time table at school which now covers every available hour of the day.

The human being is an organism with many-sided facets and capable of reacting to diverse stimuli. Healthy-minded boys and girls are strongly predisposed to react to these stimuli, but there must be a period of rest for reconstruction—katabolism must alternate with anabolism. Young people find a pleasure in exercising their bodily and mental functions, and the joy of activity excites curiosity, which enlarges the mental outlook, adds vividness and gives fulness and colour to the mental content. Such a fundamental response to stimulus necessitates for the pupil a period of repose wherein to reconstruct and analyse the knowledge it possesses. But where is the opportunity in the scheduled hourly time-table of the modern girls' school to reflect upon and to assimilate the knowledge she herself possesses? There should be an opportunity afforded and encouragement given for rest and introspection or to converse about general matters, but the moment class work is over the public and high school girl is driven compulsorily to the playing fields to practise games which do not in themselves sufficiently supply a training for all the muscles of the body, and this undue, indeed *wicked*, devotion to pointless athleticism produces "gregariousness" rather than self-reliance. The violent games, such as hockey and football, cricket, and even golf, especially when carried to such an excess, are responsible for the "insurgency" of the modern girl against domestic responsibilities and the common duties of life; moreover, they tend to make the body a motor machine rather than the expression of a healthy and refined mind.

I know there is a widespread and increasing discontent on the part of thoughtful parents with the modern system of the absolute separation of games and class-work. I maintain, as an alienist having some experience of the failures of the schoolmaster and schoolmistress, that the great drawback of the teaching of to-day is the revival of the mediæval belief in the separability of mind and body, which is responsible for the bifurcation of educational aims and the consequent direction of educational methods towards the physical development of the body on the one hand and towards mental forcing on the other, there being no attempt made to establish a proper coördination of the different branches of "knowledge-material." This practice is due to the failure of academical teachers of pedagogy to contemplate the boy or girl from the proper biological standpoint. The keynote of education, on this conception, from the nursery onwards, is "knowing through doing"; each movement of the body is associated with a mental state, and exercise should be an adjunct to the cultivation of the mind, not an end in itself.

If the present mental lukewarmness of girls towards the principles of housekeeping, the care of infants, the true instincts of motherhood, and civic duties is to be changed, the wild cult of athleticism by girls and the congested and continuous time-table prepared for them without a moment's spare time from bed rising to bed-retiring must be abandoned or extensively modified. It is a fact that excessive devotion to games is the cause of much of the mental restlessness, the frantic rush towards "What shall we do next?" the discontent and the inaptitude for work in many girls, who, formerly afraid of nothing, now return from school to their homes not as the finished article, but mentally numb and cold from a lack of resourcefulness and self-confidence. Such states of mind and body carve the way for the worst type of "nerves" or neurasthenia, and they create in addition those morphological characters described as the "cricket stoop," the "hockey walk," and the "golf stride," or the "football roll"!

I need only quote the following from the *Times* of Jan. 3rd: "There is probably no game which affords a greater scope than golf for all possible forms of nervousness, not only for sheer terror, but for every conceivable foolish fancy which can impair the properly concentrated frame of mind," and *a fortiori* this is true of the more intense and energetic games. The bodily changes referred to above are caused by an environment of undue athleticism, and they imply a change also in mental characters, so that the gentleness, the æsthetic beauty, and the refinement of our home-life are doomed to disappear unless this "curse" is modified, and I feel that their warning sign that something is wrong comes none too soon!

I am, Sir, yours faithfully,

Claybury, Jan. 23rd, 1911. ROBERT JONES, M.D. Lond.

NODULAR FIBROMYOSITIS.

To the Editor of THE LANCET.

SIR,—I should like to corroborate and accentuate all that has been said regarding this malady in the excellent and helpful article by Dr. Telling in your issue of Jan. 21st. Writing solely from the position of an ordinary practitioner, I can positively assert that it will well repay any one in practice to make a study of this condition and a systematic search for these nodules in all cases of muscular pains. The disease is not sufficiently well recognised. For example, Dr. Telling himself, evidently now an enthusiast and an authority, says

in his contribution that "some years ago he was sceptical of the existence of these nodules."

In my own case, although some years in practice, I was unaware of the real nature of this complaint, and certainly of its extent, until it was pointed out to me by Dr. John Macintyre, the well-known throat specialist. Since I have been indebted to him for an understanding of the disease and its recognition, I have been able to clear up with remarkable ease many obstinate cases of lumbago, myalgia, and muscular pains generally.

One can hardly hope to add anything of value to the striking cases illustrating Dr. Telling's paper, but a hint of what one finds in everyday work may be useful to anyone looking into this condition for the first time.

One of my first cases was a perfectly helpless policeman who had to be carried from one room to another, the action of the muscles in the gluteal region being quite lost. He had taken, *ad nauseam*, aspirin, pot. iodid., and alkalies, had suffered blisters, leeches, and turpentine fomentations without any benefit, and was supposed to be suffering from chronic double sciatica. When laid on his abdomen on a couch, the arms dependent, and the erector spinæ well-oiled, these muscles were studded with numerous nodules. All around the origin of the gluteus maximus, at the crest of the ilium and extending down to the sacrum nodules were easily felt and were exceedingly painful. Owing to the patient wasting, the integument was loose and freely moveable over the muscle, and the nodules gave the sensation to the hand of running over peas. This case made an excellent recovery at the hands of a football-trainer, to whom the nature of the complaint and directions for using the thumbs were explained, which shows that those unable to obtain trained massage may do well without. Possibly, however, if not in expert hands they are not really cured, but the relief from pain and the returning power are remarkable. In coachmen and vanmen I have found nodules, and they have invariably been the origin of some severe and commanding pain, and I have never failed to find the pain disappearing permanently after treating these nodules by massage with the thumbs.

In conclusion, it is distinctly noticeable that these sufferers from nodular fibromyositis are generally people who have not had an actual rheumatic illness; they are often highly strung people and generally fairly active. Such articles as Dr. Telling's make a welcome appearance in the pages of THE LANCET because the subject is of genuine interest and much help to the general practitioner.

I am, Sir, yours faithfully,
HARRY M. ROBERTS, L.R.C.P. & S. Edin.,
L.R.F.P.S. GLASG.

Stevenston, Ayrshire, Jan. 27th, 1911.

To the Editor of THE LANCET.

SIR,—In his very instructive paper on "Nodular" Fibromyositis, an Everyday Affection, and its Identity with so-called Chronic Muscular Rheumatism, in your issue of Jan. 21st, Dr. Maxwell Telling has done good service in drawing attention to a clinical entity which, as he rightly points out, has received too little attention in English medical literature. He is, however, hardly correct in assuming that no adequate description of this condition exists apart from what is contained in the admirable paper published by Dr. Stockman in 1904. If Dr. Telling will refer to the article on Chronic Rheumatism in the "Encyclopædia Medica," Vol. X., 1902, he will find there a very full presentation of the subject along lines which are in all essential respects identical with those set forth by him in his very instructive paper.

I am, Sir, yours faithfully,
Edinburgh, Jan. 22nd, 1911. CHALMERS WATSON.

THE ANTISEPTIC OR ASEPTIC METHODS.

To the Editor of THE LANCET.

SIR,—I read with interest the papers which appeared in THE LANCET of Nov. 27th, 1909, and Jan. 1st, 1910, and the correspondence which followed on the results obtained by the antiseptic or aseptic methods of wound treatment. The percentage of sepsis after operation in clean cases by either method as quoted in these papers did not appear to be as good as might have been expected, and I thought that they would not compare very favourably with the results which are obtained in the Dublin hospitals. However, as I had no statistics ready to hand I was unable to be certain on this point. In order to be able to make some comparison I have had very careful records kept at the Royal City of Dublin Hospital of all the clean cases operated on by me during the last 12 months. Dividing the cases into classes, as in the St. George's Hospital statistics, the numbers come out as follows:—

—	Cases.	Infected.	Percentage of infection.
Radical cure of hernia	8	1	12·5
Excision of breast	9	0	*Nil.*
Operations on the thyroid	3	0	,,
Operations on the male genital organs	7	0	,,
Operations for appendicitis	11	0	,,
Miscellaneous	65	1	1·5
Totals	103	2	2

The miscellaneous cases include operations on bones, excision of joints, laparotomies, operations on tuberculous and malignant glands, spina bifida, brachial anastomosis, amputations, excision of varicose veins, &c. In both the cases that became septic the anæsthetic was badly taken, and it was impossible to prevent the risk of soiling the wound. In the first, a boy operated on for inguinal hernia, chloroform was the anæsthetic used, and the patient stopped breathing and artificial respiration had to be performed for several minutes; though this caused a complete disturbance of the operative field there was only a slight skin infection, and the patient was discharged from the hospital healed in three weeks. In the second case the patient, a man, had a large hæmatoma and ossifying myositis in the upper part of the thigh; he took the ether very badly, and was constantly struggling during the operation, which was a long one, and though the towels surrounding the field of operation were frequently disturbed there was only a superficial infection of one end of the wound, which healed within a fortnight. So although at first sight the percentage of sepsis (about 2 per cent.) seems high, it might be considered that it would have been justifiable to omit these two cases, when the percentage of sepsis would have been *nil*. This is, of course, a very small number of cases from which to draw any conclusions, but they form a consecutive series of operations performed during one year by one surgeon under the ordinary conditions of a general clinical hospital with frequently changing residents.

These operations were performed by the aseptic method, no chemicals being used except in the disinfection of the patient's skin and the hands of the operator and assistants. All those partaking in the operation wore caps but not masks, the sister and assistants wore gloves; but as a rule I do not wear gloves myself, being satisfied with the results of the use of Harrington's solution for the sterilisation of my hands, as described by me in the *Practitioner* for February, 1906. Finally, the test of whether the case healed aseptically or not was the absence or presence of a single drop of pus.

I am, Sir, yours faithfully,
Dublin, Jan. 14th, 1911. R. ATKINSON STONEY.

THE EXPERIENCES OF DEAFNESS.

To the Editor of THE LANCET.

SIR,—The enclosed letter, from a patient whose operation has already been published by me in THE LANCET, is so interesting that I think it may be appreciated by your readers, especially when considered in conjunction with the care of the ear in children. It is addressed to yourselves.

I am, Sir, yours faithfully,
Jan. 24th, 1911. MACLEOD YEARSLEY, F.R.C.S. Eng.

[ENCLOSURE.]

To the Editor of THE LANCET.

SIR,—It has been suggested to me by more than one medical man that I should record the experience of being completely deaf. In my case the loss of hearing was gradual, accompanied for a long time by most severe attacks of vertigo, amounting at last to fits, and cured only by an aural operation. [Cf. THE LANCET, Sept. 19th, 1908, June 19th, 1909.]

I have now been quite deaf for about two years. What is the sensation? There is a sense of blankness. I feel always in a condition of expecting to hear, yet never realising the expectation. I cannot describe it in any other way. I have often observed that deaf people have a surprised look about them, as though they were wondering why they cannot hear, and sometimes I wonder if I am getting the same look, for it is not becoming. Then, together with this sense of blankness is the ever-present sense of loss. This at times is overwhelming. I cannot now remain in a room where music is being performed, as the fact that I cannot hear it and never shall is too much for me. For the same reason my duties as a clergyman have become a real and heavy burden, and most of the joy I once had in them has gone. This doubtless is the cause of the depression common to most deaf people, whereas the blind who possess the faculty of hearing are usually cheerful.

But the loss of hearing is undoubtedly felt more from its social side. Neither lip reading nor sign language can compensate for the loss of the human voice. We cannot join freely in the conversation of the family circle; and the funny story ceases to be really humorous when interpreted by signs. Rightly or wrongly, this encourages the tendency to withdraw from society and social life. You cannot hear, it is most difficult to join in the conversation, it seems only waste of time to remain, and the time one feels would be better spent in reading or writing.

One of the most distressing results of this total deafness is, to me at least, the horror of the awful silence in the dark, and I should like to know how far this is the experience of others similarly situated. Some time ago I was frequently out alone in my rural parish on very dark nights, but the scares I endured by blundering against people I could not hear approaching or whom I overtook completely unnerved me. But now it is torture to lie awake alone in the dark—not so much from any actual fear as from the sense of helplessness and insecurity; one feels in consequence the risk of being surprised by, perhaps, a cat jumping on the bed, or someone coming into the room without a light, and so forth.

In connexion with this is now the inability to walk in the dark at all. I cannot venture even to walk across a room in the dark as there always seems a tendency to fall forward, which has in fact actually happened on several occasions. The last time I attempted to walk in the garden at night I fell down, and on getting up fell down again, and only got indoors by feeling my way along the wall like a blind man.

I find I am by degrees losing the memory of certain sounds, which since memory cannot now be assisted by external aid it is impossible to recover. Certain musical airs, &c., once well known but now forgotten, I cannot possibly recall, while new sounds and new voices I cannot even realise—e.g., I can realise my wife's voice but not the voices of my children, whose adult voices I have never heard. Also, strange to say, I cannot now even imagine the sounds of some musical instruments, notably the church organ, and also certain outdoor sounds, bird notes, &c., I have completely forgotten. Being quite unable to hear my own voice, I have lost all control over it, and am told it has greatly altered since my deafness increased, running up sometimes into a falsetto and sometimes being scarcely audible. In church it is most puzzling to know if I am anywhere within the right pitch. I still enjoy the theatre, and find it most fascinating to watch the developments of the play through the acting alone, while a ballet appears much more intelligible without the music. On the other hand, the effect of seeing people sing and hearing no voices is irresistibly comic. People singing in church often look as if they are suffering untold agonies.

If there are any compensations I have not yet found them, except perhaps that one can read and write undisturbed in a noisy room, and that one's meditations are not disturbed in the London streets or the interior of a motor-bus.

Yours faithfully,

All Hallows' Vicarage, nr. Rochester. F. J. HAMMOND.

THE MEDICAL LANGUAGE OF THE THIRD GOSPEL.

To the Editor of THE LANCET.

SIR,—I read with much interest the annotation under the above heading in your issue of Jan. 7th. I should like to direct attention to an interpretation of the word σκωληκόβρωτος (translated in both versions of the Bible "eaten of worms"), which agrees with common experience of tropical pathology, and so supports very forcibly, I venture to think, the view that the author of the Acts of the Apostles was a good physician who employed an exact and appropriate term in describing the fatal malady of Herod Agrippa the First.

Kirby and Spence, in their "Introduction to Entomology,"[1] discuss the phrase in question and point out that the word scolex (σκώληξ) was used to denote the larva of an insect. So Aristotle[2] employs it when he says that all insects produce a scolex or are larviparous. And when Galen prescribed a remedy for ulcers infested with maggots he used the same word. Liddell and Scott's "Greek Lexicon" (edition 1883) refers to Theophrastus, who writes σκωληκόβρωτος of a worm-eaten tree—i.e., a tree worm-holed by grubs.

It is a matter of everyday practice in the East to find the larvæ of flies inhabiting wounds and ulcers, a condition known as myiasis.[3] It is more than probable that the malady of Herod Agrippa was complicated by this condition, the concomitant sepsis aiding, if it did not cause, the fatal issue. Two well-authenticated cases may be quoted in corroboration.

The first is that of the Emperor Galerius, of whom we read in "The Decline and Fall of the Roman Empire"[4]: "His body, swelled by an intemperate course of life to an unwieldy corpulence, was covered with ulcers, and devoured by innumerable swarms of those insects who have given their name to a most loathsome disease." In a footnote Gibbon says, "Lactantius and Eusebius describe the symptoms and progress of his disorder with singular accuracy and apparent pleasure," but it seems from the passage cited above that the historian took the condition to be one of phtheiriasis.

The second case referred to by your contributor is that of Antiochus Epiphanes, the graphic description of whose death is to be found in the Apocrypha.[5] Here we have a chariot accident—severe injuries to the limbs—septic infection of the wounds, perhaps communicating with fractured bones, invasion of the fly-blown ulcerated surfaces by maggots, and subsequent death from septic absorption:—

> It came to pass that he fell down from his chariot, ...; so that having a sore fall, all the members of his body were much pained.
>
> * * * * * *
>
> So that the worms (σκωληκες) rose up out of the body ....., and whiles he lived in sorrow and pain, his flesh fell away, and the filthiness of his smell was noisome to all his army.
>
> And the man, that thought a little afore he could reach to the stars of heaven, no man could endure to carry for his intolerable stink.
>
> * * * * * *
>
> So died he a miserable death in a strange country in the mountains.

In view of these parallel cases and ancient instances, I cannot but accept the rendering set forth by Kirby and Spence in their "Entomology," and at the same time give all credit to the medical accuracy of the author of the Acts of the Apostles.—I am, Sir, yours faithfully,

Birkdale, Lancs., Jan. 17th, 1911. D. M. HUTTON.

THE ADMINISTRATION OF STIMULANT DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—I desire to bring to your notice a method of producing anæsthesia which I have not hitherto seen described. The anæsthetic consists of a mixture of ether, alcohol, and oxygen. The apparatus, which is extremely simple and inexpensive, is composed of: 1. An ordinary Schimmelbusch mask, or, better still, although not essential, Hewitt's modification, which is specially adapted for the exhibition of oxygen with anæsthetics. 2. A glass bottle with a rubber stopper, through which are led two pieces of glass tubing, the longer of which reaches to within one inch of the bottom, and the shorter extending for one to two inches beyond the under surface of the rubber stopper. 3. A cylinder of oxygen. 4. A supply of rubber tubing.

The glass bottle is filled to the depth of two inches with absolute alcohol. Rubber tubes are fitted on to the two glass tubes, the one attached to the longer being fixed at its other end to the nozzle of the cylinder, and the other from the shorter of the tubes leading to the inhaler. Oxygen is then bubbled through the alcohol and the administration of ether commenced. The apparatus can be equally well used in the administration of other anæsthetics.

I have found this method very useful in bad cases where the patient prior to the operation is in a condition of shock, and also in those conditions where one anticipates and wishes to obviate shock from the operation itself. It has proved very successful in laparotomy for intussusception, ectopic gestation, &c.

I am, Sir, yours faithfully,

H. M. ANDERSON,
Resident Surgical Officer, Royal Infirmary.

Preston, Jan. 23rd, 1911.

CATGUT STERILISED BY IODINE.

To the Editor of THE LANCET.

SIR,—I should be glad to know the experience of surgeons who use catgut sterilised by the iodine method for the deep sutures in their cases. In a long series of cases here where this suture has been used about 50 per cent. show the formation of a variable quantity of orange-coloured serum in the deeper parts of the wound. This serum collects, as a

[1] Seventh edition, p. 51.
[2] De Generat. Animal., l. 1, c. 2.
[3] Encycl. Medica, vol. viii., p. 211.
[4] Gibbon, Edition 1802, vol. ii., p. 213.
[5] II. Maccab. ix.

rule, within the first week after operation. There seems to be but a slight tendency in these cases for absorption of the serum to take place, and in hardly any case does suppuration follow its collection. In some cases there is a variable rise of temperature, seldom exceeding a degree and a half, to indicate that healing is not proceeding satisfactorily, but in many there is no evidence apart from inspection to show that this is the case.

On releasing the fluid by passing a probe between the skin sutures, or by removing a stitch, the parts fall together and healing rapidly follows. The formation of fluid in the wound naturally delays consolidation of the scar, and I should be glad to learn any means whereby this accident could be avoided. The catgut is sterilised as follows: the raw gut is first dipped in a 70 per cent. alcoholic solution of biniodide of mercury (1–1000) and is then kept in tr. iodi for at least ten days before use.—I am, Sir, yours faithfully,

R. S. CAREY, M.R.C.S. Eng., L.R.C.P. Lond.,
House Surgeon, The Infirmary, Peterborough.

Jan. 25th, 1911.

THE INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—As a member of the committee of management of the Central London Throat and Ear Hospital, and as chairman at several meetings during which the question of the medical treatment of school children under the care of the London County Council was discussed, I beg leave to state that my colleagues were unanimously of opinion that at the present moment it was not advisable to enter into any commercial undertaking or any kind of agreement whatever by which the London County Council would have a right to claim medical service at our hospital.

What we did was to pass a resolution to the effect that we were "willing as hitherto to receive these children from the London County Council schools who are suitable for hospital treatment so far as the capacity and resources of the hospital will allow." This resolution has not been departed from, but I understand that it has been misinterpreted by many medical practitioners with whom the hospital has such intimate and cordial relationship.

During the last year we have treated in the out-patient department 346 children whose parents had been directly recommended to seek medical relief for affections of the throat, nose or ear from the various education committees in connexion with the London and the neighbouring county councils. As members of the community every one of these children was a suitable hospital patient, and they were admitted as members of the community, and not by virtue of their relationship with the county councils. Many of these children were sent by medical practitioners who use this hospital to such a large extent, no less than 35 per cent. of the out-patients and 57 per cent. of the in-patients coming direct from their own doctors.

This mode of action on our part appeared to be the best adapted to satisfy the general medical practitioners whose legitimate interests we strive to safeguard, and it approached as nearly as possible the ideal of making this hospital a consultation centre between the practitioner, his patient, and the specialist.—I am, Sir, yours faithfully,

CARMICHAEL THOMAS.

Inverness-terrace, Hyde Park, W., Jan. 31st, 1911.

THE NOMENCLATURE OF THE SUPRARENAL PRINCIPLE.

To the Editor of THE LANCET.

SIR,—I must apologise for intruding in this controversy, and would not have done so had Mr. Braithwaite not introduced my name. I am sure there is no intention on the part of Mr. Braithwaite to foster a principle which is not only quite unjust to manufacturers but also misleading to pharmacists, and may, indeed, be generally mischievous in its effect; yet logically this is the untenable position to which he is driven by arrogating to himself the power to substitute a synonym in the place of the name adopted by the author; in other words, to "adjust" a clinical report in such a manner as would not, it is safe to say, receive the sanction of the author. He must start with the general hypothesis that all the preparations of the suprarenal gland now on the market are identical, and if used under identical conditions will produce identical results—a hypothesis which is falsified by analyses and clinical reports, and, moreover, is not claimed by the respective manufacturers. This being so, and the pharmacist being unable to identify the individual product, of what *practical* value are Mr. Braithwaite's abstracts? It is quite obvious that they will be misleading; and if, as is quite possible with a sensitive drug of this nature, the desired therapeutic effect is not produced, dissatisfaction ensues, and the author, the prescriber, the pharmacist, and the drug itself are, in that particular connexion, discredited.

The quotation of mine to which Mr. Braithwaite refers has, it seems to me, little bearing on the subject, except to make it more difficult for him to justify the substitution of the synonym. Further, it makes this portion of the letter inconsistent with his action and with the final paragraph of his letter, where he tacitly admits that the name used by the author indicated that a particular preparation had given a definite therapeutic effect.

In conclusion, I can only express the hope that, in justice to all, Mr. Braithwaite will either give honour where honour is due, or if this course is not permitted him by the ethics of the "Year Book of Pharmacy," that he will abstain from a system of substitution as improper as it is misleading.

I am, Sir, yours faithfully,

London, Jan. 31st, 1911. THOMAS MABEN.

MORE GRATUITOUS SERVICES.

To the Editor of THE LANCET.

SIR,—The following correspondence may interest your readers, as it refers to a subject in which we are all interested. I should like your opinion on the matter, which, briefly, is as follows.

A servant (injured at work) brought me a message from her master that the insurance company required a medical certificate. I replied that if he would apply to me direct and pay the fee for it he should have it. I enclose a copy of his reply and my answer.—I am, Sir, yours faithfully,

Jan. 30th, 1911. BETA.

[ENCLOSURE.]

DEAR SIR,—I am insured against any claim under the Workmen's Compensation Act, and the matter is now between Mrs. —— and the Insurance Company. They ask for a certificate which *she* must get, as the matter is entirely out of my hands. Yours truly,

— —.

DEAR SIR,—As an act of courtesy I enclose you the certificate you require, but I must enter a protest against the manner in which the gratuitous services of the medical profession are so frequently claimed—apparently as a matter of right—for the pecuniary benefit of others. As you appear entirely to misunderstand the position, may I briefly explain it?

A is ■ employer of labour (in this case yourself); B is a servant (in this case Mrs. ——); C is an insurance office. Under the Workmen's Compensation Act B has a claim against A for wages. To limit his liabilities or recoup his losses A insures with C, the latter undertaking to carry through the negotiations with B, and pay A's liabilities.

Nevertheless, C is only acting on behalf of A, and should C be unable to meet its liabilities, or through some technical loop-hole be enabled to plead non-liability, B's claim against A would still exist; whilst C's refusal to pay would concern A only and not B, the latter having no legal interest in the private contract between A and C.

It is to enable A to transfer his liabilities to C that the certificate is required. If this be refused A will be the loser, for C will not pay without proof, whilst under the Act A must still pay B, and obtain what redress he can from C for breach of contract.

Thus the certificate is required entirely for the benefit of A, and its non-production will not in any way affect B's position, whose legal claim against A is still intact.

Therefore A is undoubtedly liable for the expense of obtaining the necessary certificate. Yours truly,

— —

*** Beta has put his case quite correctly in his letter to A, the employer, but how far he may have affected his right to claim a fee from A by writing that he sent a certificate "as an act of courtesy" we do not prophesy. He would have been wiser if he had refused the certificate until he obtained either payment or promise of payment from A, who, of course, is liable to compensate his own servant but has indemnified himself by insuring against that liability. In order to obtain the benefit of that indemnity A needed a certificate to send to his insurance company; he asked for it, and it is for him to pay for it. So far from the matter being entirely out of his hands, neither he nor his servant can alter the obligations imposed by the Workmen's Compensation Act.—ED. L.

THE HOUSING PROBLEM IN SOUTH WALES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(*Continued from p. 267.*)

The Poorest Houses and the Poorest Tenants.

THE houses in Merthyr that are defective and, in fact, unfit for human habitation are nearly all old houses, and in many cases the expiration of the leases is so near at hand that the owner naturally objects to incur any outlay for repairs. The authorities, it may be said, should proceed all the same, and this they have done in many instances, but not in all. The fact is that the rents, especially for the old houses owned by the Dowlais works, are very low. One cottage I visited had two small bedrooms upstairs and one downstairs, so that there were three beds in all, and the rent was only 10*s.* a month. There are a considerable number of old cottages let at 9*s.* 6*d.* per month. A new cottage could not be obtained for twice as much; 20*s.* a month is considered a low figure. When a family, or perhaps an old couple, are reduced to the lowest straits of poverty it often happens that their most valuable asset is the fact that they are in occupation of an insanitary dwelling for about half the rent they would have to pay elsewhere. If the law were enforced they could be turned out. But their house may be insanitary only because it is somewhat dilapidated, and more especially because it is overcrowded. The drains are in order and do not pass under the dwelling, which is well exposed to plenty of light and fresh mountain air. To turn these people out when there is no better place for them to live in would be mere cruelty. If they are a dirty, degraded lot, to place them in a better house where they must pay twice as much rent would only add to their poverty and consequent degradation. The evidence, especially at Merthyr, goes to show that good property quickly deteriorates under such tenants, unless the change of dwelling coincides with a favourable change of occupation. Something is needed to reawaken hope and ambition, atrophied by long periods of misery and semi-starvation. The ideal would be to obtain more remunerative employment at the psychological moment of the enforced removal from a slum to a decent dwelling. Then the better house and the better pay coming hand in hand would engender the confidence and the courage necessary to make these poor and crushed sections of the community enter the lists once more and take an active part in the struggle for life. A real regeneration might be thus brought about, otherwise the friendly counsel of sanitary inspectors, of nurses, and of other reform agencies falls on the ears of apathetic people who have not the vitality to avail themselves of the advice given. People only improve, take more pride in their homes, and attempt to keep them clean when they remove voluntarily because they had succeeded in getting more advantageous employment. This is so well known that when the borough council was compelled itself to build houses those who were opposed to such municipal intervention urged that the most degraded of slum-dwellers should be admitted into the council houses. This was a certain way of ensuring the financial failure of the enterprise and thus limiting its scope. The council, however, was not satisfied to accept only the "ne'er do weels" for tenants, though there is an amusing story told how four council houses were let to very disreputable and undesirable tenants. On each occasion the house had been taken by a very decent-looking person wearing something like a sealskin jacket. An inquiry, however, revealed the fact that, though the tenants differed, the same smart imitation sealskin jacket had, on each occasion, been borrowed just to produce a favourable impression during the negotiations.

Dwellings Built by the Corporation.

The council of the borough of Merthyr, acting under Part III. of the Housing of the Working Classes Act, has built 100 houses in the Penydarren district which are let at 21*s.* per month; in Penywern, 38 houses let at 17*s.* a month; in Twynyrodyn, 35 houses let at 18*s.*, and 15 at 22*s.* a month; at Dan-y-Deri, 38 at 22*s.*; and in Penywern there are 68 more houses that are not yet quite completed. This makes a total of 294 houses built and rented direct to the tenants by the corporation. Let at the rents mentioned, these houses pay and do not add any burden on the rates. There are always more applicants than there are houses to let, and it is now proposed that the council should build houses in the Plymouth and Park Wards. In the same districts just mentioned 304 houses were built by private enterprise. Nevertheless, this is obviously insufficient. Of the two-roomed houses inspected in 1907 the proportion of overcrowding was equal to 29 per cent. This increased to 38 per cent. in 1908 and to 42 per cent. in 1909. The increase of overcrowding in three-roomed houses was from 12 per cent. to 19 and, finally, to 26 per cent. during the same three years. Overcrowding is here defined as meaning that the inmates exceeded double the number of rooms. The overcrowding is mainly in the two- and three-roomed houses. The four-roomed house seems to be the most suitable type, but the five- and six-roomed houses are, again, more apt to be overcrowded, as it generally means the taking in of numerous lodgers.

The 38 houses the council built at Penywern, Dowlais, were all four-roomed dwellings, two rooms downstairs and two upstairs, and a bath which is supplied with hot water from a boiler heated by the kitchen range. The cost for each house was £134 10*s.*, and, as the repayment of the loan is extended over a period of 60 years, they can be let for 17*s.* a month. It should be stated that there is also the cost of constructing the road for these houses, and this raised the outlay to £150 per house. At Dan-y-Deri, Merthyr Vale, the council had acquired some land, and conceived a more ambitious plan of building 33 houses that were to cost £242 each. But the Local Government Board objected that this would mean too high a rent for the class of tenant it was desirable should be housed. So the scheme was therefore altered to reduce the cost to £200. At this lower price the houses contain a kitchen which, as usual in such cottages, is the general sitting-, dining-, and living-room, and also a scullery. On the first floor there are three bedrooms, the largest having a cubic capacity of 1080 feet. These houses let for 22*s.* a month. The first lot of corporation houses were erected in 1903 by the urban district council before Merthyr was promoted in November, 1905, to the rank of a county borough. They form two streets appropriately called Urban-street and Council-street. These are situated just above, and a very short distance beyond, the terrible slum on the hillside that overlooks the Dowlais Ironworks. They afforded a pleasant contrast after visiting the squalor and misery that were so close at hand. The roads are broad, and an extensive space is left behind for gardens and fresh air. The houses with their dressed stone fronts look very prim. The inhabitants take pride in keeping everything bright and in good order. The interiors I visited were very clean, and the only fault I can find is that no baths are provided. Here the land costs 1½*d.* per square yard on a lease of 999 years, the back lanes being thrown in free. As matters now stand, the borough owns a good deal of land on similar leases, and it has become practically a freehold, for there is no one remaining to claim the ground-rent. The council experiences no greater difficulty in obtaining land than private builders; and, indeed, for the first housing schemes brought forward eight or nine years ago they obtained land below its market value. It was the late Mr. Thomas Williams, an iron-master, who offered land on these exceptional terms, for he was very anxious to help in the rehousing of the poorer sections of the population. A fair amount of public spirit, I was assured, has been displayed by the ground-landlords of the neighbourhood.

Dwellings Built by Private Enterprise.

From these council houses I went to several new streets recently erected by private enterprise. Among these, one of the most interesting was Baden-street, because several of the inhabitants who have been driven out of the worst slums have gone to live there. The street is admirably situated on a hillside with large garden space behind and open fields close at hand; in fact, the inhabitants may be considered as living in the country, though they are not far from the centre of the town. Some of the houses are quite nice, while others already wear an appearance of dilapidation. The paper of the partition walls has been torn off, exposing the laths and plaster. The separation wooden rails in the back gardens or yards have been torn up and probably burnt for firewood. Indeed, the stair banisters are also at times burnt.

People who are starving suffer greatly from the cold, and they cannot afford to buy fuel. Other houses had windows broken. The tenants could not have fresh panes put in. Their poverty might be reduced if they grew vegetables in the large garden space behind the houses, but they are too listless. Also, many are but temporary tenants. This is one of the great difficulties. People from all parts are attracted here in the hope of getting some work. They have no intention of settling down and take no interest in their home. On the other hand, the houses of the native Welsh are easy to recognise, first, because they are much better kept and, secondly, because there is always an attempt made to grow flowers at the window. Inside there are surely some brass candlesticks or other brass utensils and ornaments that are kept in the highest state of polish and prove by their glitter some pride in domestic environment. But in Baden-street there were houses containing no furniture worthy of the name, and certainly nothing whatsoever that was ornamental. Many of the inhabitants were dressed in rags and the children were barefoot, which was perhaps preferable to wearing the remnants of shoes such as the parents carried fastened to their feet. The street was clean, for the inhabitants are prosecuted if they throw out refuse or empty dirty water in the gutter instead of pouring it out over the gully. But they take their revenge by throwing out tins and gallipots, soiled bedding, and sordid, filthy rags into the back gardens, which were intended to provide vegetables and flowers for happy prosperous homes.

The House Famine.

Not far from here there are in Queen's-road some cottages built by the council that have a beautiful outlook over the hillside. There is a small room by the side of the large living-room in the front, while there are a scullery and bathroom at the back. Above are two or three bedrooms. The tenants seemed quite proud of their homes and did not degrade the property. The rent was 22*s.* a month, and these houses are close to the park which has been made in an old quarry so hollowed out that it looks like an amphitheatre. Here the municipal band plays in the summer, and this is much appreciated by the Welsh, many of whom are born musicians. On the other hand, while these improvements have been effected, the riverside and China districts, which some 12 years ago were sinks of immorality and vileness, are now completely swept away. Still, and in spite of all these endeavours, the housing problem remains unsolved and the official statistics quoted above show that the overcrowding is increasing. The borough council boasts that it stands in the first rank among the boroughs of the kingdom for activity in the work of housing. The population of Merthyr is estimated at somewhat less than 79,000, and the council has built close upon 300 houses. There are not many towns that have done so much in proportion to their populations. On the other hand, public meetings have been held at Merthyr and resolutions carried calling upon the borough council to erect, not 300, but 2000 houses. Certainly the latter figure is nearer the mark if the necessities of the situation are to be satisfactorily met; but even then a plentiful supply of houses does not meet all the difficulties. We have seen that 17*s.* a month is the lowest possible rent for a good house that cost in all £150 to build. On the other hand, the poorest sections of the population still find houses which they rent at less than 10*s.* a month. Therefore, of two things one must occur—either the wages these people earn must be increased or cheaper houses must be built. If there is to be no increase of wages the house must not cost more than £90 to £100. Even then it is a poor business for those who find the capital. Ten shillings a month on £100 only represents 6 per cent., and we should count 2 per cent. for repairs and something more for the sinking fund, to say nothing of rates and taxes. Obviously wages should be such as to admit of the payment of more than 10*s.* a month for rent. It was not easy to ascertain what the unskilled labourers earn. Some persons assured me that in the ironworks they only obtained 1*s.* 11*d.* "a turn," while others insisted that at Dowlais they received 2*s.* 11*d.*; but everyone agreed that the work was very irregular. What is called "a turn" practically amounts to a day's work, and it is only when the works are very busy that these men can hope to earn from 16*s.* to 18*s.* a week. These men and the miners' assistants cannot afford the rent of a new and decent cottage. In the building trade unskilled labour is paid 5½*d.* per hour, and a wages book was shown me which proved that 52 workmen had earned £40 18*s.* the previous week (considerably less, therefore, than £1 a week). A large number of poorly paid workers, including some of the lower type of Irish, have drifted here. They work, but often only in such a fashion that it is doubtful whether it is worth employing them. Many are social wrecks and have not the manhood remaining to make a genuine effort. These are the sort of people who create insanitary conditions and keep the sanitary inspectors constantly at work. Thus last year legal proceedings were taken in respect to 160 houses. Of these, 87 were altered and rendered habitable, 26 were closed, and in 48 cases the closing orders had to be postponed because it was impossible to find accommodation for the tenants elsewhere, and here we come back to the bedrock difficulty that there are not sufficient houses available. In addition to the above cases that came under the Housing of the Working Classes Act, the sanitary inspectors served 263 legal notices under the Public Health Act, which resulted in a considerable amount of structural alterations and repairs. Thus, while overcrowding and misery still prevail, the surroundings are constantly watched and kept as wholesome as the circumstances permit.

The Cry for More Houses.

Many of the worst dwellings, and these are generally very old cottages, are saved by their situation on a hill-side. Here, I would again insist, they are exposed to the wind and bathed in light. Nothing overtops them, nothing puts them in the shade. The inhabitants may strive hard by overcrowding, and by their untidy, filthy habits to poison themselves, but they do not often succeed. If there were only a foul drain and a putrescent dust-bin they would more often achieve what seems to be their object. But the drains, even if out of order, are outside the houses and not under the living- and cooking-room, as I have often found in London and elsewhere. As for the dust-heap, the unauthorised rubbish deposit, the scavengers are too active, and it has not time to grow to dangerous dimensions. Of course, it is all very lamentable, very horrible, and sometimes quite picturesque. We have the poetry of squalor, the fascination of that which is sinister. It is all good subject matter for the realistic artist, for a lay newspaper, for the descriptive portions of a novel with a purpose. Some good word-painting could be done in describing the hovel homes of the workers in the vale of martyrs. But when it comes to technical details, then it must be confessed that these slums are more fortunately situated than is usually the case with slums. With some exceptions of course, they have more air, more light, are more free from the risks arising from faulty drainage than is the case with the slums in many, perhaps in the majority, of the large towns. In consequence of the industrial development the overcrowding is exceptionally prevalent, and this is the principal and most pressing danger. The most striking structural abomination is the "under-and-over" house. This is, indeed, a great and undoubted evil which is special to these mountainous parts of the country. But no one attempts to defend such dwellings, and if a few still remain it is simply because there is such an acute house famine. Thus, and from whatever point of view the question is considered, the conclusion is always the same—namely, that a great number of very cheap houses must be built, and this must be done at once.

(To be concluded.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Ladies' Public Health Society.

THE Ladies' Public Health Society plays an increasingly important part in influencing the public health of Manchester, more especially as regards poor women and children. It has budded off, it may be said, from the Manchester and Salford Sanitary Association, and now has been so far approved of by the municipal authorities that the Manchester women health visitors of the society are paid by the corporation, and they and the lady visitors work in conjunction with

the medical officer of health. The annual meeting of the society was held in the Lord Mayor's parlour, the Lady Mayoress being in the chair, on Jan. 27th. One interesting item in the report had reference to the work of the Mothers' Guild. It was found that many poor women, either before or after confinement, suffered in health, and their offspring also, from insufficient nutritious food, and it was determined to do something to help them by providing one good meal a day, for which in most cases payment was made. During last year 9397 dinners were provided, 8901 of them being paid for and 496 being given. The effect of this one good substantial meal on the health of mothers and babies was noticeable. Intemperance, a foe directly and indirectly injurious, they always had to fight, for it was a cause of much distress. But one of the greatest difficulties to contend with was the wonderful ignorance of the women, especially of the younger ones, who have had all the advantage apparently that they were able to extract from our system of compulsory education. A school for mothers, therefore, had been opened in Manchester, and was doing good work. For the first two years the society had given £50 a year towards its support. The medical report of the Mothers' Guild shows that during the year nearly 250 babies under the age of one year were brought to the guild for the first time, and on an average between 20 and 25 babies had attended every Thursday afternoon for the weekly weighing. A great part of the work of the society is voluntary, and the Bishop of Manchester, in moving the adoption of the report, touched approvingly on the combination of voluntary and municipal effort. In seconding the motion, the Mayor of Salford said, "It was distressing that there were young women who did not know how to take care of their babies, or how to make a home." This society deserves success, and it will not be to the credit of Manchester if it languishes for want of help.

Coroner and Medical Man.

There was what the reporters call "a breezy passage" a few days ago at an inquest at St. Helens between Mr. Coroner Brighouse and Mr. F. P. Bassett regarding the registration of a child's death. It cannot be said that these "breezes" are always the fault of either one side or the other, but they are too frequent and do not reflect credit on the coroner's court. In this instance the coroner blamed the medical man for causing the parents to be "put to additional sorrow and the annoyance of an inquest, and explained that Dr. Bassett, instead of giving a death certificate could, if he thought fit, have expressed the opinion that the death was one from natural causes." Mr. Bassett said he could not give a death certificate as he did not precisely know the cause of death. The verdict was "Death from natural causes," and the jury said they "did not think the doctor had acted with any ill-will." The coroner seems to have been a little ruffled in temper, for "he did not think all the trouble would have been caused if there had been an exercise of common-sense." Mr. Bassett, however, held his ground, and concluded by saying: "If you will allow me to say so, I have acted according to law, and I shall always act in the same way." If the law is bad it should be altered, but as long as it is law a medical man should not be blamed for obedience.

New Altrincham Hospital.

An isolation hospital, built by the urban district council at a cost of £12,000, was opened about a week ago in Dunham-Massey, Altrincham. Dr. Meredith Young, the medical officer of health of Cheshire, congratulated the council on the completion of "an up-to-date, well-designed, and well-equipped hospital." They wanted to know, he said, whether the hospital was going to give the sufferer a greater chance of getting better than in the home, and whether those in the same house or the same street were going to have a better chance of escaping possible illness and possible death. He was able to assure his audience, from his long experience, that the hospital most positively offered them at least ten times the chance that the ordinary home did.

Overcrowded Infirmary.

Almost every charitable institution suffers either from indigence or overcrowding, and after a fairly successful year as regards funds the Rochdale Infirmary has to complain of the latter. At the annual meeting of the infirmary workmen's committee a former secretary of the institution urged strongly the need for making early extensions. He said: "The operating theatre was a disgrace to Rochdale, and the infirmary itself was frightfully overcrowded. More beds were urgently needed." It is to be hoped that Rochdale will rise to the occasion.

Slums at Knutsford.

It comes rather as a shock to learn that Knutsford, the Cranford of Mrs. Gaskell's story, should be anything but romantically clean, pretty, and sweet swelling. Yet it seems that some of the housing conditions in the place are shocking. A case of child neglect was brought up and the evidence showed abominable overcrowding. The place had only two rooms, and they were occupied by 15 people, adults and children. The magistrates made the following comment: "The bench think it desirable to say that they cannot understand how it is that such a state of things as this has been allowed to continue in our midst for so long. The local authority has been considerably to blame in not rectifying this state of affairs at a much earlier period." This rebuke does not seem undeserved.

Water-supply of Ashton-under-Lyne.

Northern towns which obtain their water-supply from moorlands have to be very watchful as to contamination by lead, not so much from the water before it reaches the lead pipes in the houses as after that from the action on the lead of the slightly acid water. Ashton has been inquiring into the state of its water-supply with satisfactory results as to the cold tap water, no lead being found, though two samples showed slight acidity. With the hot water it was different. Three out of six samples of the latter "showed a marked quantity of lead, which was apparently dissolved from the unions and joints." This is, of course, highly dangerous. Dr. J. W. Talent, the medical officer of health, pointed out that those who drank from the hot water taps ran a decided risk of lead poisoning, and that the practice was highly dangerous. The results of the tests are to be sent to the Local Government Board. The hint as to the effect of hot water increasing the risk of lead poisoning may be taken by many places besides Ashton-under-Lyne.

Jan. 24th.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The Late Lord Winterstoke.

ON Hospital Sunday Lord Winterstoke died, at the age of 80 years, at his house at Blagdon, on the northern face of the Mendip Hills. There is scarcely a feature of the progress of modern Bristol with which he has not been identified and few philanthropic and educational undertakings which have not enjoyed his support in the form of energy, common-sense advice, and liberal contribution. Here it will be enough to recall his association with the University of Bristol and the General Hospital. He was a Pro-Chancellor of the former, and as such formally opened the new wing not many weeks ago. Up to the date at which the University received its Charter his contributions amounted to £35,000. The Art Gallery which he gave to his native city at a cost of £40,000 adjoins the University, and may ultimately become the art school of the University. He was a vice-president of the General Hospital, and not long ago gave £5000 towards the cost of the new buildings which the committee hopes to put up shortly; this was indeed his last public benefaction.

Hospital Sunday in Bristol.

On Sunday, Jan. 29th, the Lord Mayor's annual appeal for subscriptions in support of the medical charities of Bristol was issued through the medium, and with the help, of the various places of worship. At the Cathedral service in the morning the Lord Mayor and corporation were present, with the Vice-Chancellor and other representatives of the University, and representatives from the hospital committees and staffs, including the president and chairman of committee of the General Hospital (Mr. Joseph Fry and Mr. Herbert M. Baker). An appropriate sermon was preached by Archdeacon Robeson, and the collection, like others taken throughout the city, was devoted to the Lord Mayor's fund. The facts upon which the appeal is based were summarised on a printed slip distributed throughout the city as follows: The total number of patients treated in the year by the four

chief hospitals (the Royal Infirmary, General Hospital, Children's Hospital, and Eye Hospital) was 109,000; the ordinary income of these institutions amounted to £33,200, and the ordinary expenditure to £39,700. If it was not for the hardness of heart engendered by the annual repetition of such statements, these facts would surely strike the public as deplorable. The perpetual insolvency is, of course, sufficient evidence of the unsatisfactory results of the present haphazard system of medical relief; to this is added the appalling fact that the hospital committees claim with pride to have provided free treatment for more than a quarter of the population of the city. Of course, deductions must be made from the total of 109,000, which includes renewal of treatment by renewal of hospital notes given to patients already under treatment and counted thereupon as new patients; but the total does not include the patients who have been treated by the Bristol Dispensary, the Eye Dispensary, and other smaller institutions. For this tremendous overdraft upon their resources the Bristol citizens have to thank the want of coördinate control, which allows the two larger hospitals to compete with each other in the number of people they can attract to their out-patient departments for treatment. In no city in the kingdom does the hospital system more urgently require overhauling and subjecting to some one supreme authority by whom the relations of the various institutions to each other might be determined and fixed. There was a chance of such an authority being created when the question of a King Edward Memorial Fund was under consideration, but this chance was thrown away.

A New Games Field for the University of Bristol.

Mr. George A. Wills has given £4000 to the University for the acquisition of a 12-acre field about two and a half miles from the University buildings at Coombe Dingle, a suburb on the north-western boundary of Bristol. The enclosing and laying-out of the ground will cost about £1000, and the pavilion and dressing-rooms another £1000. In the laying-out of the ground the advice of the head groundman at the Gloucestershire County Cricket Ground, Ashley Down, is being followed. It remains for the University Council to ratify the proposals as to the exact plans to be adopted, and the work of levelling, &c., will then be proceeded with.

The Red Cross Society in Bristol.

The members and supporters of the Bristol branch of the Red Cross Society recently held a meeting at the Victoria Rooms, at which satisfactory progress was announced. Over 250 persons have applied to join the voluntary aid detachments, so that it has been possible to form three women's detachments and one of men. Additional detachments have been promised by the Clifton Ladies' Club, by the employees of Messrs. E. W. Savory, Limited, art printers, and by the inhabitants of the suburbs Henbury and Westbury-on-Trym. Other firms have signified their willingness to undertake the training necessary for the formation of detachments. Co-ordination with the St. John Ambulance Association has proved possible in Bristol, so that here, at least, there will be no waste of energy from overlapping of organisations. The committee of the Bristol Royal Infirmary has offered the War Office the use of its premises as a base hospital of 520 beds, the accommodation which will, it is said, be provided by the projected extension of the infirmary if the Nurses' Home be included. A large general committee has been formed, with the Duchess of Beaufort as president.

Death of William Andrew, M.B., C.M. Edin.

Dr. W. Andrew of Launceston died on Jan. 25th, in his sixty-second year. The deceased, who graduated as M.B. and C.M. of Edinburgh in 1873, had been in practice for many years in Launceston, where he was extremely popular and highly esteemed. He took a great interest in all municipal matters, was mayor of Launceston on two occasions, and at the time of his death was an alderman of the borough. He was a staunch Churchman, and for the past 23 years had been vicar's warden of St. Mary Magdalene, one of the most beautiful churches in Cornwall. He was a prominent Freemason. He had a large practice in Launceston and the district, and was medical officer to the local dispensary. Dr. Andrew was unmarried. He will be greatly missed in Launceston, where his cheery manner and generosity had endeared him to all classes of the inhabitants.

The Royal United Hospital, Bath.

The annual meeting of the subscribers to the Royal United Hospital was held at the Guildhall, Bath, on Jan. 27th, under the presidency of the mayor. The medical report was satisfactory, but the financial statement showed that although most careful economy had been practised the deficit balance on the working of 1910 amounted to £1838.

New Isolation Hospital in Somerset.

At a meeting of the Radstock urban council held on Jan. 22nd it was decided to erect an infectious diseases hospital for the Clutton rural council and the Midsomer Norton and Radstock urban councils. The cost of the building will be about £7000. The council also determined to petition the Somerset county council to make a joint hospital area of the three districts concerned.

The Yeovil and District Hospital.

At the annual meeting of the subscribers to this institution held on Jan. 26th a deficit of about £62 was reported for the year. At the suggestion of a member of the committee the money was subscribed by those present and the debt wiped off.

Amalgamation of Health Appointments.

At a meeting of the Swindon (Wilts) town council held on Jan. 18th the health committee recommended that the medical officer of health (Mr. F. E. Streeten) should for the future devote the whole of his time to the duties of the office, in combination with that of medical inspector of schools. The committee made a proviso that Mr. Streeten should continue to hold the appointment of medical superintendent of the infectious diseases hospital and also that of medical officer of health for the Highworth rural district. The town council, after some discussion, adopted the proposal.

The Care of Epileptics.

At a meeting of delegates from the Poor-law unions of Dorset, which was held at Dorchester on Jan. 17th, it was resolved to approve the principle of removing epileptic patients and feeble-minded persons who were resident in workhouses to a suitable institution, to be controlled by a committee appointed by the unions of the county.

"A Medical Account to be Paid within 12 Hours."

At the Tavistock (Devon) county court on Jan. 21st Dr. W. R. Griffin of Tavistock sued Mr. M. Howick, a traveller, for 50*s.* for professional attendance upon his son. Defendant paid £1 into court, and contended that this sum was sufficient for the services rendered. His honour (Judge Lush Wilson, K.C.) gave judgment for Dr. Griffin, and as the defendant did not permanently reside at Tavistock ordered that the amount should be paid within 12 hours.

The Duties of Public Vaccinators.

At the last meeting of the Tiverton (Devon) board of guardians it was reported that one of the public vaccinators had not sent any certificates of successful vaccinations since October, 1910, and when written to on the subject by the guardians had not replied to the communication. After some discussion it was decided to inform the Local Government Board of the matter.

Medical Relief and Old Age Pensioners.

At the last meeting of the Axminster (Devon) board of guardians it was decided that when old-age pensioners applied for medical aid each individual case should be treated on its merits.

The Exmouth (Devon) Dispensary.

At the annual meeting of the subscribers of the Exmouth Dispensary, which was held on Jan. 25th, the following members of the honorary medical staff, whose term of office had expired, were re-elected:—Consulting Physicians: J. W. Hodgson, M.D., C.M. Aberd., M.R.C.S. Eng.; and R. S. Thomas, M.A., M.D., M.C. Cantab., L.R.C.P. Lond., M.R.C.S. Eng. Consulting Surgeons: J. T. Langley, M.R.C.S. Eng., L.S.A., and J. Cock, M.R.C.S. Eng., L.R.C.P. Lond. Medical Officers: G. L. Thornton, M.A. Cantab., M.R.C.P. Lond., M.R.C.S. Eng.; O. Eaton, L.R.C.P. Lond., M.R.C.S. Eng., D.P.H. Camb.; and G. H. Hanna, M.B., Ch.B. Edin.

Jan. 31st.

WALES.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Borth.

THE inhabitants of Borth, on the Cardiganshire coast, have prudently decided to ensure for themselves a sufficient supply of water. The town has a resident population of about 800 persons, and in the summer-time that number is nearly doubled. The existing supply is obtained from springs, the water from which is impounded in a small reservoir with a capacity of 40,000 gallons. It is proposed to abandon this reservoir and construct another to hold 664,000 gallons, at a cost of £3000. Mr. John James, one of the medical officers of health of the Aberystwith rural district, in which Borth is situated, is of opinion that the water has no plumbo-solvent action, and that it will not require to be filtered.

Public Health in Towyn.

The estimated population of Towyn, Merionethshire, is 3980. Between 1891 and 1901 there was an increase in the population of 443 persons. In his annual report for 1910, the medical officer of health, Mr. E. Lewys-Lloyd, has recorded the very low birth-rate of 14·4 per 1000 of the population, and a death-rate from all causes of 12·1 per 1000. The death-rate from phthisis was 1·5 per 1000. In the past ten years every seventh death registered has been due to some form of tuberculous disease. A scheme of voluntary notification of cases of phthisis is in force in the town, and disinfection of rooms occupied by consumptive persons is freely offered by the district council, the offer only rarely being refused.

Damages for Slander awarded to a Medical Officer of Health.

At the recent Carmarthenshire assizes the medical officer of health of Carmarthen, Mr. L. M. Bowen-Jones, was awarded damages to the extent of £100 in an action which he brought against a member of the Carmarthen town council. The cause of action was apparently trivial, and referred to some building stone which Mr. Bowen-Jones had obtained from the corporation, and which the town councillor alleged had not been paid for. In spite of the assertion of the borough surveyor that the stones had been paid for, the statement was repeated and persisted in that no payment had been made; so that, to quote the words of Mr. Justice Lush, who tried the case, Mr. Bowen-Jones could not sit down without investigation after being called a thief. As already intimated, the jury gave a verdict in his favour.

Water-supplies of South Wales Colliery Districts.

Three years ago the corporation of Merthyr decided by a majority of 9 votes in a council meeting of 29 members to promote a Bill in the 1908 session of Parliament, having for its object the construction of an additional reservoir, at a cost of some £350,000. When the scheme was placed before a meeting of the ratepayers, however, it was strenuously opposed, and a resolution of disapproval was carried by an overwhelming majority. In these circumstances the Bill was not proceeded with. Three years later—that is to say, on Jan. 11th last—a Bill containing almost identical provisions to that of 1908 was submitted to a town meeting, and on that occasion received what was practically the unanimous approval of the ratepayers. The reason for this change of opinion is not far to seek. It is due to the fact that the sanitary authorities in the Rhymney valleys are promoting a Bill in the coming session for the constitution of a water board having power to purchase two existing water undertakings in the valley, and by throwing a dam across the river Taf Fechan in Brecknockshire to construct a reservoir in precisely the same position as that proposed by the Merthyr corporation, which is above the existing reservoirs belonging to Merthyr. The area of supply of the new board would include the whole of the urban districts of Rhymney and of Gelligaer, with portions of the urban districts of Caerphilly and Bedwellty. The need for an increased supply of water in the Rhymney valley is very great, and there is little doubt as to that need being recognised by Parliament. That the need can be met by impounding the waters of the river Taf Fechan is admitted, and so long as the inhabitants of the valley obtain the water it is of little consequence by whom the works are carried out, though in all probability a joint board representing the Merthyr corporation and the authorities in the Rhymney valley would be the proper body to be entrusted with it.

Jan. 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Eye, Ear, and Throat Infirmary of Edinburgh.

IN the report of the Eye, Ear, and Throat Infirmary of Edinburgh for 1910 an account is given of the history of the institution. It originally existed as the Eye Infirmary of Edinburgh, founded in 1834. In 1883, when departments were added for ear, nose, and throat cases, the name of the institution was changed to that of the Eye, Ear, and Throat Infirmary of Edinburgh. The institution not only carries on out-patient work, but accommodates in the wards patients requiring operative treatment. The premises consist of two flats in Cambridge-street. During 1910 a larger number of patients had been dealt with than in any previous year. During the year 5311 new patients had been seen, and of these 132 had been treated in the wards as in-patients. The increase in the cases is mainly due to the large number of children from the Board schools sent in consequence of their parents having been notified of eye defect. The work thrown on the medical officers of the eye department was very great and deserved special recognition. The ordinary expenditure had been £416, having exceeded the ordinary income of £321 by £95.

Edinburgh Medical Missionary Society.

The annual meeting of the Edinburgh Medical Missionary Society was held on Jan. 26th, Dr. J. W. Ballantyne, president of the society, being in the chair. In the report statistics were given for the last ten years of the society's work. In that time 107,623 cases had been dealt with at the Livingstone Dispensary in the Cowgate, and 2020 patients had enjoyed a fortnight's stay at the Convalescent Home in Duddingston. During the decade the ordinary income amounted in all to £44,458, an average of £4445 17*s.* per annum, while the ordinary expenditure had amounted to £51,488, an excess over the ordinary income averaging £703 per annum. This had been met by drawing on the extraordinary income. The total income for 1910 was £5592, including legacies. After the adoption of the report the directors were re-elected on the motion of Dr. J. O. Affleck, seconded by Professor A. Crum Brown.

Installation of Lord Rector of Glasgow University.

Lord Curzon of Kedleston was last week installed Lord Rector of Glasgow University. The ceremony took place in St. Andrew's Hall, in presence of a large number of undergraduates and of the public. Lord Curzon received the honorary degree of LL.D., the capping ceremony being performed by the Vice-Chancellor, Principal Sir Donald MacAlister. The Lord Rector then delivered a most impressive address, taking as his subject, "East and West: a Retrospect and a Forecast." Afterwards he was entertained at luncheon in the University. In proposing the toast of "The University," his lordship dealt with the expansion in the conception and ideals of the universities that had taken place during the past fifty years.

Glasgow Maternity Hospital Appointments.

The directors of Glasgow Maternity Hospital determined some time ago to open a gynæcological wing in that institution, and at a meeting held last week it was decided that Dr. Robert Jardine and Dr. Samuel J. Cameron should be elected to the senior appointments. Dr. Jardine is professor of midwifery at St. Mungo's College and is at present a member of the obstetrical staff of the Maternity Hospital. He is an examiner in midwifery to the Scottish Conjoined Board and also holds a similar position at the Victoria University, Manchester. Formerly he was an examiner at the University of Glasgow. Dr. Cameron is a graduate of Glasgow University and assistant to the Regius professor of midwifery at the University.

A Medical Man and the Sale of Food and Drugs Act.

A Glasgow medical man was recently charged under the Sale of Food and Drugs Act with having sold, through an assistant, 3 ounces of sweet spirit of nitre that did not come up to the standard of 1·75 per cent. of ethyl nitrite required by the Pharmacopœia. The accused, who was defended by Mr. William Findlay for the Medical and Dental Defence Union, was acquitted.

Montrose Asylum Board and the New Charter.

The special committee of the Montrose Asylum and Infirmary Board, appointed to consider the demands of the Forfarshire District Lunacy Board and parish councils of Forfarshire and Kincardineshire for representation on the board of management, handed in its report at a special meeting of the managers held last week. It recommended that the board should agree to a conference, and that a special committee should be appointed to attend it and report to the board. Subsequent to the committee meeting at which this decision was arrived at, a letter, in reply to one by the clerk to the managers, requesting information as to the objections taken by the memorialists to the scheme submitted by the board, was read from the Secretary for Scotland, in which he replied that from resolutions submitted to him by these bodies after consideration of the proposal for a new charter put forward by the managers of the asylum, he gathered that the main points of difference were as regards: (1) The relationship between the asylum and the Montrose Infirmary and Dispensary; (2) the constitution of the board of management of the asylum. If their committee thought it necessary to ascertain, more particularly at the present juncture, the views of the district lunacy board and parish councils, Lord Pentland would suggest that they should communicate with Mr. R. Freer Myles and Mr. W. K. Macdonald, who acted for these bodies respectively; but it appeared to his lordship eminently desirable, in the event of a conference such as was under consideration of their committee, that parties should enter upon the discussion of the points as little hampered as might be by antecedent proposals or resolutions. The recommendation of the special committee that a conference should be held was agreed to.

The University of St. Andrews and the Inclusive Fee.

At a meeting of the University Court of St. Andrews, held on Jan. 21st, there was submitted a memorandum of the deliberations of a conference of representatives of the University Courts of the four Scottish Universities, upon the proposed institution of inclusive or composite fees, to be uniform for a recognised course of study for the same degree throughout the Scottish Universities, in fulfilment of the condition attached by the Treasury to the additional grants voted to the Scottish Universities. The Court directed intimation to be made to the Treasury that it had accepted the principle of an inclusive fee, and had generally approved of the memorandum and the recommendations of the conference.

Proposed New Arbroath Infirmary.

A meeting was held on Jan. 23rd of the Arbroath Infirmary directors. A report was read by Dr. Macintosh, medical superintendent of the Western Infirmary, Glasgow, who has been appointed by the building committee to examine the Arbroath Infirmary. The important alterations and additions recommended in the report would involve an outlay of at least £6000, and the opinion was expressed that it would be better to erect a new building altogether. An architect was appointed by a ballot vote to advise the directors in the circumstances, and it was remitted to him to bring up a report as to what was advisable to be done.

Aberdeen Students and the Rector's Carriage.

A mass meeting of Aberdeen students was held on Jan. 26th to consider the position with regard to the smashing of Mr. Asquith's carriage on the occasion of the rectorial address. Mr. Trail, the owner of the vehicle, has offered to accept £25 as settling the whole claim, and after a statement by the President of the Students' Representative Council, it was agreed that the students should be asked to contribute that sum.

Jan. 31st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Treatment of Juvenile Criminals.

IN a presidential address to the Statistical and Social Inquiry Society of Ireland last week Lord Justice Cherry dealt with the modern treatment of young criminals. Since 1906 a Borstal institution has been in existence in Clonmel prison, and last year the entire prison was given over to Borstal work, the ordinary prisoners being transferred elsewhere. Prisoners from all over Ireland are now brought to Clonmel if sentenced to detention in a Borstal institution or to ordinary imprisonment of sufficient duration to give hopes of successful reformatory treatment. The results of the work in Clonmel have been very satisfactory. Of youths discharged under licence by the powers of the Prevention of Crimes Act, 1908, not one has been brought back for further detention. Lord Justice Cherry protested against short sentences for children. A short sentence, he said, had no punitive effect on a child, only tending to familiarise him with the inside of a prison. If it were necessary to place a child under detention he should be given a sufficiently long sentence for the Borstal system to have a chance of being efficacious.

Action for Fees.

Sir Christopher Nixon last week sued two ladies for £30 9*s.* for services rendered, journeys made, and work done at their request, and damages for breach of contract. As a consequence of a motor accident the ladies sued the owner of the car for damages. Their solicitors had arranged with Sir Christopher Nixon to examine them and testify in court. The fee now disputed was 25 guineas for attendance and testifying in court, as arranged with the solicitors. Sir Christopher Nixon having attended court as requested on a certain day and hour, found that the case had been settled. The solicitors declined to pay the fee on the ground that he had not actually given evidence. It was also contended that when a medical man had examined a person whose condition subsequently became a question in court, he could be compelled to attend and testify for the fee laid down in the schedule. The Recorder gave judgment for the full amount, holding that there was an express contract between the parties, of which Sir Christopher Nixon had performed his part so far as he had not been prevented by the other parties, and strongly criticised the solicitors for refusing to pay the fee.

Proposed Reforms in the University of Dublin.

The Senate of the University of Dublin last Saturday by a large majority approved the proposed reforms in the constitution of the University Council—viz., that the Council should have a more representative basis than heretofore, and in particular that direct representation should be given to the teachers in the professional schools. The School of Physic is to have the election of two members, the entire Council to consist of 19 members.

"Corrected" Death-rates.

In THE LANCET of Jan. 21st, p. 189, Sir John Moore drew attention to a change in the classification of diseases recently adopted by the Registrars-General of the three divisions of the Kingdom. Another change has been made by the Registrar-General for Ireland in his weekly returns of births and deaths. Formerly the actual death-rate for the Dublin registration area was stated, in addition to a corrected rate which omitted the deaths in public institutions of persons admitted from without the area. The actual rate is now omitted, thus preventing a true comparison with former years, and unduly exaggerating the improvement in the state of public health in Dublin.

Spiddal Water-supply.

At a recent meeting of the Galway rural council a report was read from Mr. W. P. Kirwan, medical officer of health, concerning the water-supply of Spiddal, a seaside village near Galway. It stated that Spiddal was supplied from a river of peat water, into which dead animals were thrown, filling it with decaying matter. No wonder that Spiddal is a hot-bed of typhoid fever, to which disease more than one medical man has succumbed within the past ten years.

Ballycastle Dispensary.

Dr. Daniel Boylan was, on Jan. 24th, unanimously elected medical officer of the Ballycastle district at a salary of £155, rising by four increments of £7 10*s.* to £185, with registration and vaccination fees, and also £20 as medical officer of health. Dr. James McIlroy, the retiring dispensary medical officer, who has had 43 years' service (21 of them at Castlequarter), was granted, subject to the approval of the Local Government Board, a retiring annual allowance of £135.

The Queen's University of Belfast.

At a mass meeting of students of Queen's University, Belfast, on Jan. 25th, resolutions were unanimously passed urging that the time has come for the acquisition of athletic grounds, and appealing to the sympathetic consideration of the Senate. About four years ago the students, aided by their friends and by the citizens, raised £5000 for the purchase of an athletic field, but since then nothing definite has resulted. Inasmuch as just now the various committees of the Senate are planning innovations and improvements in building equipment, &c., in connexion with the University, a deputation of students was appointed to wait upon a joint finance and athletic field committee of the Senate.

Forster Green Hospital for Consumption.

At the fifteenth annual meeting of the friends of this hospital on Jan. 26th it was reported that 269 patients (38 more than in the previous year) had been admitted during 1910, but the average duration (12 weeks) of their treatment was rather shorter. Including those remaining from last year, 337 cases were treated during the year. Twice as many cases in the incipient stage were admitted during 1910 as in 1909. The medical staff report two grave defects: First, the admission of advanced cases which, after a time, go home, where they are a source of danger, to die; and, secondly, that patients who have greatly advanced on the road to recovery are compelled to leave and return to work, whereby many of them relapse.

Memorial to the late Dr. W. B. McQuitty.

A very largely attended meeting—all classes in the community being represented—was held in the City Hall, Belfast, on Jan. 26th, for the purpose of considering the best means of perpetuating the memory of the late Dr. W. B. McQuitty. The Lord Mayor (Mr. R. J. McMordie, M.P.) presided. On the motion of Sir John Byers, seconded by Mr. James Davidson, chairman of the board of management of the Royal Victoria Hospital, and supported by Sir Peter O'Connell, D.L., President of the Ulster Medical Society, it was unanimously resolved that there should be a memorial to the late Dr. McQuitty. Dr. J. J. Adams, J.P. (coroner for East Antrim) moved, and Mr. J. McAlery seconded, the appointment of a representative committee to carry out the object of the memorial, with Mr. J. G. Turner, Northern Bank, Belfast, as treasurer, and Dr. John Campbell, Dr. W. M. Killen, and Mr. C. J. Milligan as secretaries. The memorial will probably take the form of a scholarship in clinical medicine at the Royal Victoria Hospital, with which Dr. McQuitty was so long associated.

The Union Workhouse, Belfast.

From the report of the inspectors of the Local Government Board on the Belfast Union Workhouse, which has just been published, it is satisfactory to find that in the Belfast Workhouse and in the Whiteabbey Sanatorium the total number of inmates—3437—was smaller last year than for more than six years past, due largely to trade improvement in Belfast. The inspectors think that the children in the workhouse, though well looked after, would be more likely to become useful members of society if removed from the atmosphere and associations of a large mixed workhouse; also that the guardians should weigh the wisdom of allowing expenditure on out-door relief to continue increasing at the high rate of the past five years. At Whiteabbey Sanatorium, the inspectors say, "everything possible is done by the Abbey staff to promote the well-being of the patients."

Jan. 31st.

DEATH OF A GLOUCESTERSHIRE CENTENARIAN.—Mrs. E. Parnell of Olveston, who recently attained the age of 100 years, died on Jan. 26th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Hygienic Dwellings.

AT a recent meeting of the Society for Social Medicine Dr. Flesch, a town councillor of Frankfort, communicated an interesting report on the dwellings built by the society for the better housing of the working classes. He said that since the year 1891 the society had provided accommodation for 5617 persons in 1201 houses. The house-rent was from 25 to 30 per cent. less than in private houses. Each block had a hall for the general use of the residents, a reading-room, a library, playgrounds for children, and a crèche. Coals and several kinds of provisions, including potatoes, were kept in store by the society, and the tenants were allowed to buy those articles at wholesale prices, the society making no profit out of the sale. By a mensual contribution of about 3½*d.* the tenants became entitled to the services of a trained nurse in cases of sickness or lying-in, only a penny (10 pfennig) a day being then charged for nursing. The house-rent must be paid in advance, or otherwise the society had the right to give the defaulting tenant notice to quit, and the same was the case when a joint application was made by several tenants to the effect that a certain individual should not be allowed to remain. Special medical interest attached to the fact that the mortality of the tenants was considerably less than that of the general population of the city; during the past 11 years for which the society has worked the general mortality of Frankfort had decreased by 3 per cent., and that of the tenants of the society's houses by 6 per cent. It might be supposed that this was due to the better financial position of the tenants, who did not belong to the poorest classes of the community but rather to the general working population; it was, however, remarkable that when a new block was opened the mortality of the incoming tenants was at first greater than it afterwards became when they had lived for some time in their new quarters. The good hygienic conditions of the society's houses seemed, therefore, to have a good influence on the mortality. The principal decreases of the death-rate were under the heading of tuberculosis, in which it was 1·85 per 1000 as compared with 2·15 per 1000 in the city, and under the heading of infantile diarrhœa, in which it was 0·95 per 1000 as compared with 1·55 per 1000 in the city. The lower death-rate was caused firstly by the good hygienic condition of the society's buildings, and secondly by the low rent, as the money saved in this way was spent on better food. Another good effect of this economical housing was that mothers did not require to go out to work and were therefore able to give more attention to their children. In conclusion, the speaker said that the erection of cheap and wholesome dwellings was one of the pillars of modern hygiene.

Pyrexia in Malignant Growths of the Kidneys.

At a meeting of the Berlin Surgical Society Professor Israel read a paper on the occurrence of pyrexia in patients suffering from malignant growths of the kidneys and the suprarenal capsules. He said that this symptom had hitherto been rather neglected by observers, but that it was not so rare as had been supposed. Of 146 cases of malignant growths of the above organs operated on by him, 12—i.e., 8·2 per cent.—were associated with pyrexia. It was essential to be aware of this fact in order to avoid errors in diagnosis; he mentioned a case in which a malignant growth attended with pyrexia was supposed to be a spleen enlarged by malaria; in another case which he quoted the high temperature was attributed to latent pulmonary tuberculosis, and the patient was sent to a sanatorium. The pyrexia might occur at different stages of the disease; it might be present in the initial stage either simultaneously with the first symptom of the growth or even before such symptoms have become obvious. In some cases it made its appearance together with other symptoms at any stage of the disease, and in a third category it was observed only in the last stage where cachexia and metastases were present. The pyrexia might be of either the remittent or the intermittent type, and might occasionally last for several months. Sometimes it resembled relapsing fever and sometimes it was in association with hæmaturia, either preceding or following it. Professor

Israel also discussed the influence which an operation performed for the malignant growth might have on the pyrexia. He quoted 12 cases, but excluded five of them from the computation, because in two there was no pyrexia at the time of the operation and three of the patients died a short time afterwards. Among the remaining seven cases there were five in which no pyrexia occurred after the operation, whilst in two the patient's state was the same as before. In the latter two cases the operations were incomplete, because in one of them the growth had partly penetrated into the vena cava, and in the other a cluster of glands in connexion with the large vessels had to be left behind. It must therefore be concluded that the pyrexia depended on the presence of the growth, and this view was supported by the fact that pyrexia sometimes occurred when metastases were developing, or in cases not operated on, when a tumour suddenly commenced to grow rapidly. The cause of the pyrexia was quite uncertain; it neither depended on the histological structure nor on the size of the tumour, but only on the degree of malignancy, and the prognosis of a growth associated with pyrexia was, as a rule, decidedly unfavourable.

Jan. 30th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Arsenobenzol (Salvarsan) in Hungary.

As soon as it became known in Hungary that Professor Ehrlich had introduced a new remedy for syphilis large numbers of medical men travelled to Frankfort for the purpose of seeing him in his laboratory and congratulating him warmly. From Frankfort they went to Berlin to see Professor Wechselmann, who was the first to adopt the treatment of syphilis with arsenobenzol, and when they returned home the daily newspapers, which had in the meantime been publishing long accounts of marvellous recoveries obtained with the new treatment, turned them into heroes. When these gentlemen resumed practice after their visit to Germany they were offered high fees by patients—some of them suffering from syphilis and some not—for injections of arsenobenzol. Several of the medical men took advantage of these offers and charged exorbitant sums for giving such injections, a course which has been very sharply criticised by the professional journals as a serious offence against medical etiquette. The pharmaceutical chemists, seeing how much the public were interested in the subject, also provided themselves with hundreds of doses of the new remedy when it was put on the market under the name of salvarsan, about 25,000 doses being ordered for the whole of Hungary. It was therefore not surprising that the medical journals were offered far more articles than they could possibly publish, all containing in some form or other "personal experiences with Ehrlich's remedy." Among those who took up the matter from a scientific point of view, Professor Jörök, Professor Havas, Professor Selley, and Dr. Spatz, surgeon-major in the Hungarian National Army, were prominent. Professor Emile Grosz was the first among the investigators who called the attention of the profession and also that of Professor Ehrlich himself to the danger of dissolving arsenobenzol in methylated spirit. Shortly before the discovery of arsenobenzol Professor Grosz had even written a long memoir on the harmful action of methylated spirit on the optic nerve in connexion with the numerous cases of poisoning in Hungary with methylated spirit. At present the majority of practitioners use the neutral suspension method and are administering the drug subcutaneously according to the instructions of Professor Wechselmann. In hospitals the intravenous method is also employed. As for the results in general, articles which were not very loud in praise of arsenobenzol were published as far back as September, 1910. Even one of Ehrlich's most ardent followers ventured to say that he was so little impressed with the efficaciousness of arsenobenzol that he was ordering his patients to continue inunctions with grey ointment. Since the introduction of salvarsan the conviction has become wider that Ehrlich's remedy is not at all superior to either mercury or iodine. Some say that it is to be administered only in malignant cases, and in cases for which mercury is of no use, but these cases are fortunately very scarce. Some days ago Dr. Fekete Gábor published an article embodying several objections to salvarsan arranged under the following heads. 1. First of all, he says that it is uncommonly dear. As its manufacture is neither complicated nor difficult he cannot comprehend why 12 kronen (10*s.*) are charged for it when similar amounts of preparations of that class are sold for 2 kronen or so. 2. The making of the suspension is imperfect and gives a great deal of work to the practitioner; sometimes it is very difficult to neutralise the solution accurately. In preparing the solution a good deal of the salvarsan is wasted because it adheres to the glass rod and to the glass or porcelain of the mortar. 3. Intramuscular and subcutaneous injections are painful, and intravenous injection is dangerous. The first two methods are liable to be followed by local infiltrations which last for six weeks or longer and may even not disappear at all; they may also turn into abscesses or necroses which are very difficult to heal, and have sometimes led to erosions which have had to be repaired by transplantation of skin. 4. The results of the treatment are not at all superior to those obtained with mercury, although he admits that lesions of the mucous membranes heal very quickly. It is only in cases where mercury is of no use and in cases of malignant syphilis that Dr. Fekete Gábor will resort to salvarsan. Another investigator has described some ill-effects of salvarsan. He says that in some of the cases under his care it worked liked a charm as regards lesions of the mucous membranes and the skin, but other symptoms, such as diseased conditions of the bones, the periosteum, and the central nervous system, were not very favourably influenced. In some cases he was induced to repeat the injection. The result was less than in the first instance. In his opinion this fact bears out Darwin's theory of adaptation, according to which the spores and the new generation of spirochætæ might be expected to adapt themselves to the germicidal properties of arsenobenzol and to become more resistant. In such cases the poisonous action of salvarsan might supervene and cause untoward symptoms. In the *Orvosok Lapja* of Jan. 14th Dr. Schmidt asks if syphilitic patients in the hospitals should be treated with arsenobenzol. In Hungary most general hospitals are maintained by the State, and the medical men are allowed to use only official remedies, and these only according to special hospital formularies, where the chief aim is economy as far as it does not affect the chances of the patient's recovery. If a medical man prescribes, either intentionally or from forgetfulness, medicines not included in that formulary then he has to pay their cost out of his own pocket. As salvarsan is not yet on the official list its administration in hospitals is prohibited. Dr. Schmidt maintains that the State would gain by the use of the salvarsan treatment for syphilis, basing his computation on the total number of days spent in the hospital by patients and on the cost of medicines used. He says that up to now a syphilitic patient spends on an average 40 days in the hospital, using 180 grammes of grey ointment and 12 doses of iodine solution, which cost the State about 90 kronen (75*s.*). In view of the fact that treatment with one dose of salvarsan, costing 10*s.*, takes only 20 days, the State would save about 40 kronen (32*s.*) on each individual. The whole of Dr. Schmidt's reckoning is, however, contradicted by Dr. Walko, who says that the arsenobenzol treatment does not render grey ointment and iodine superfluous, because the majority of medical men order the continuation of inunctions even if the patient was treated with salvarsan. Replying to Dr. Schmidt's statement that patients treated with salvarsan make only a short stay in hospital, Dr. Walko says that these patients may sooner or later come back to the hospitals for mercurial treatment just as if they had not been treated with salvarsan at all.

Jan. 23rd.

FIRE AT THE EALING ISOLATION HOSPITAL.—On the evening of Jan. 31st a fire broke out in the western portion of the north block of the Ealing isolation hospital. The roof of the building was entirely destroyed and the other parts of the building were much damaged by smoke and water. The children in the wards were taken to a place of safety, prompt action being shown by the staff in removing the children.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Cholera Epidemic.

No case of death from cholera has latterly occurred either among the general public or among the soldiers garrisoned in the city. This, at least, is the official report appearing in all the local newspapers. Whether it is true seems to be doubtful. People in Constantinople are generally afraid to give to the medical authorities notice of a cholera case, making every possible attempt to keep the matter secret. The public here are under the impression, in the majority of instances, that the municipal physicians only aggravate the situation by their unskilful meddling and exaggerated measures of precaution. In some quarters, and that not altogether among the lower classes, there actually exists a belief that it is in the interest of the medical authorities to poison suspected cases in order so much the surer and the speedier to stamp out the epidemic. In these unfortunate circumstances it is quite likely that cases of cholera still occur, but the authorities are not aware of it. Thus, a medical man told me only the other day that he attended this week a genuine cholera case which did not appear in the official report. However this may be, the epidemic can be considered, to all intents and purposes, as having disappeared from Constantinople. But the Minister of the Interior has decided, in conjunction with the municipal and medical authorities, to continue for a long while yet, perhaps throughout the whole winter, all the prophylactic and precautionary measures which have been adopted from the very first. This is a laudable decision, and if consistently and strictly carried out might make it impossible for another cholera epidemic to reappear in the spring, as is the usual experience here with epidemics. The local newspapers speak in laudatory terms of the zeal and sagacity of Talaat Bey, the Minister of the Interior, who presides over the Sanitary Commission. He takes great personal interest in the hygienic well-being of the city. He visits the sources of water-supply to ascertain the state of the canals, as well as the sanitary condition of the aqueducts and lakes. Lately he made a little expedition of this sort, and found that the Dercos water, which supplies a large section of the metropolis, is quite unsuitable for drinking purposes. Necessary measures to improve matters are being taken. Talaat Bey has undoubtedly done very much to stem the progress of the epidemic of cholera. Cold, wintry weather prevailing at the moment when I am writing these lines renders its own great help to all the energetic human efforts.

Hospital Steamboats.

The Ottoman Government has decided to purchase a number of hospital steamboats for the transport of soldiers when ill. These steamboats will have all the necessary requisites for an up-to-date medical service. Each will possess a dispensary, bath-rooms, ice factory, wards, &c. Their displacement will be 2000 tons and they will be able to attain great speed.

New Slaughter-houses.

I understand that the municipality of the city intends purchasing the free part of the quarter Koutchouk-Vlanga in Stamboul in order to construct a number of spacious slaughter-houses. These will be equipped with all the necessary requisites, will possess a chemical laboratory, a special cabinet for veterinary surgeons, a reservoir for the collection of the blood of the slaughtered animals, depôts for straw and grass, a restaurant, and a coffee-house. It has long been felt that proper slaughter-houses were the great need of a city, where about 2,000,000 cattle are killed annually.

A New Asylum.

The *Osmanischer Lloyd* announces that the condition of the asylum for insane people at Scutari being very unsatisfactory, it has been decided to erect a new institution of that kind in San-Stephano. A sum of 50,000 Turkish liras was originally asked for the purpose. This sum, however, has been found insufficient. It is thought that it will require £T120,000 in order to build an asylum of the proper dimensions and with the necessary equipment. To facilitate matters, £T20,000 will be allowed annually from the municipal budget. The plans of the buildings are ready and have lately been submitted for examination to the Council of State.

Disastrous Earthquakes in Turkestan.

Distressing details have come from Vernyi, Turkestan, of the disastrous earthquake that lately visited that unhappy Russian province. It lasted for five minutes, and the first violent shock was followed by several others of lesser violence. This earthquake is one of the most calamitous that ever befell Russia. The full extent of the terrible destruction is not yet exactly known. Some idea, however, can already be formed of the enormous loss of human life, of property, and of cattle. Up to now, so say the local newspapers, more than 2000 dead bodies have been found and many hundreds are missing. Some say that the number of the last amounts to 10,000. Many thousands of different cattle, the principal possession of the native population, perished in the earthquake, and a far greater number became victims of the extraordinarily cold weather that was prevailing at the time, of hunger, and of the snow-storms. Many rich families became beggars, many camped in the snow-covered fields, the temperature being about 30° C. below zero, and the death-roll will be heavy if help is not forthcoming. Mothers are unable to feed their children, and the mortality among the latter is appalling. The Russian Government is doing its best to alleviate the crying misery, but its means seem to be limited, for it would be necessary, to begin with, to construct some 100 villages and to purchase cattle for thousands of families. The Tsar has shown great sympathy for the stricken population, mostly Mahomedans, and has sent a large sum from his private purse, and the Tsarina has opened a list of subscriptions. Every offer is gladly accepted—money, clothing, building material of every description, petroleum, flour, &c. Twenty-three years ago Turkestan was visited by a somewhat similar earthquake, but it was not of such a calamitous extent. Help this time is also being sent from different parts of the Turkish Empire.

Jan. 24th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

The "Johns Hopkins Idea" in New York Medical Institutions.

A PLAN to unite the faculty of medicine of Columbia University and the Presbyterian Hospital of New York city has been under consideration for some time, it being proposed to create the same relationship between these institutions as exists between Johns Hopkins University and Johns Hopkins Hospital, Baltimore, Md., with which Professor William Osler was so long connected. This linking of the University with the hospital and the medical school seems to be in the air, for there was recorded in THE LANCET of June 11th, 1910, that the Washington University in that city was, in pursuance of the same idea, to have its own hospitals with the necessary laboratories adjacent thereto. The donation of £300,000 from an anonymous source will certainly hasten the consummation of this union in New York also. The gentleman who acted as intermediary between the anonymous philanthropist and the two institutions has himself offered the sum of £40,000 in addition, and has furthermore proposed to endow and fully equip a surgical pavilion of 150 beds. It is understood that the University, in return for the privilege of making all nominations to the hospital staff, shall meet the expense of all scientific and educational work associated with the hospital. Each institution will maintain its own corporate existence. Those who are appointed as visiting physicians and surgeons to the new hospital will be expected not to occupy similar positions elsewhere. The Presbyterian Hospital had already made plans to build an extension which will adjoin the Rockefeller Institute for Pathological Research.

Leprosy in the United States.

Nine lepers were exhibited to the members of the Academy of Medicine on the evening of Dec. 29th, 1910. In an effort to dissipate the prevalent superstitious horror of this disease the nine patients, who included a negro girl, a male negro, an Italian with advanced tubercular leprosy, a Russian, and a Chinaman, were brought to the Academy in the public tramcars, coming from various remote suburbs of the city.

The general tone of the meeting deprecated the hysteria which has arisen through popular ignorance whenever leprosy has come up for public discussion in the United States. Dr. C. W. Duval, of Tulane University, New Orleans, La., who was the first to grow the bacillus lepræ in culture media, described his experiments and what he expected to accomplish with serums in producing immunity. He said that experiments with Japanese mice and other animals showed that the disease was certainly infectious by contact.

Unauthorised Necropsies.

Two physicians of Long Island City, a part of the greater city of New York, were recently sued for £2000 damages for performing an unauthorised necropsy on the body of a widow, said to have died from gangrenous perityphlitis. The suit was brought by the children of the deceased and the jury awarded £1600 damages, the action being undefended. This is the first case of the kind ever tried in the United States.

Abuse of Charity.

According to the findings of the subcommittee on charities of the Congestion of Population Commission at least one in every nine persons resident in New York receives annual assistance from charity. 176 societies furnish food, fuel, clothing, and general relief; there are 92 fresh-air charities, 89 societies for the relief of foreigners, 56 for the care of the sick in their homes, 571 societies for other kinds of home relief, 132 to provide relief for destitute or neglected children, and 69 institutions for the defective adults. The object of charity winds up in the hands of one of 12 burial societies. All these societies work apart from some 600 churches, which have their own charitable organisations, and none of the numerous hospitals are included in the foregoing list. Most of these societies have property exempt from taxation and distribute their funds without control by the State, the latter confining its inspections to the few State subsidised organisations. Some 500,000 persons—i.e., as already stated, about one resident in nine—enjoy annually the ministrations of these sometimes unwise and over-liberal associations. The total amount spent annually, exclusive altogether, be it remembered, of what is disbursed in strictly medical relief, is over £7,000,000.

Antivivisection Tactics.

The New York State branch of the Society for the Prevention of Cruelty to Animals is about to urge an investigation by the State authorities into the various institutes for pathological research. The object is to obtain the privilege of free and unannounced entry into the laboratories, obviously for the purpose of getting material for absurd and misleading "literature."

Jan. 24th.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

A Health Department for South Africa.

DURING the past month in South Africa the value of proper organisation in the profession has been demonstrated. As indicated in previous communications, for some months past efforts have been made to induce the Government to recognise the importance of public health and the necessity for having a properly equipped health department for South Africa. These efforts, however, did not meet with success, but the agitation was continued, and at length came to a head in Parliament. On Dec. 7th Dr. J. C. McNeillie, member for Boksburg, formally moved in the House of Assembly that the Government be requested to consider the advisability of the appointment of a Minister of the Crown with the portfolio of Public Health. In his speech he reviewed the position of the country from a public health standpoint, detailing at length the circumstances leading up to the agitation which was being carried on by medical men throughout the length and breadth of South Africa. Dr. A. C. Neethling, member for Beaufort West, followed, and stated that as a member of the Government party he concurred in what had been said, but, while he considered that eventually a definite portfolio of Public Health would have to be created, he thought perhaps that the profession was asking for too much at present, and he therefore moved an amendment requesting the Government to consider the advisability of creating a proper health department for South Africa under the direct control of a chief medical officer. A long debate ensued in which most of the medical and several lay members took part. The actions of the Government were somewhat freely criticised from all quarters of the House, and eventually the debate was adjourned until the following week. On the 13th the matter was again raised when the estimates were under discussion, and again there was a further debate. In this the Right Hon. J. X. Merriman, ex-Prime Minister of Cape Colony, took the leading part, and in reply to the Minister for the Interior, who had expressed doubts as to the value of the work done by the late Cape Health Department, he warmly defended this department, emphasising the administrative ability and zeal of Dr. A. J. Gregory, its chief medical officer, who was now, he stated, in the extraordinary position of being subordinate to his former clerks. Eventually the Minister for the Interior stated that he held very strong views that medical men should not take any part in administration, but he was prepared carefully to reconsider the whole matter, and in any case he would promise in due course to establish a department of public health and to appoint a chief medical officer. While declaring that he was convinced that the larger issues of public health should remain under the Union, he thought that it would be necessary to appoint provincial medical officers of health, and possibly to delegate to the provincial councils the dealing with all smaller and local health matters. On this the matter dropped, but the discussion on the adjourned motion was resumed the following evening, when in view of the Minister's promise the night before the amendment proposed by Dr. Neethling was formally agreed to. The department, it is hoped, will be charged with the dealing with, *inter alia*, all infectious and dangerous diseases, port health, vital statistics, leper asylums, mines, and the health of labourers on the mines. It is hoped, also, that it will undertake investigation and research into the numerous diseases peculiar to the country, and administer the bacteriological and chemical laboratories, other than those engaged solely in veterinary or agricultural work. It should control district surgeons. It might also be conveniently charged with all general medical work, such as the administration of the lunacy laws and the Medical Acts. Some anxiety is felt lest a department in name only should be established, with a chief medical officer without any administrative functions whatever, and the profession in South Africa is therefore anxiously awaiting developments.

The Segregation of Lepers.

A debate of some importance took place on Dec. 13th on the subject of leprosy, when a motion was moved in the House of Assembly praying for the removal of the Robben Island lepers to the mainland. This question is one which has been constantly brought forward in the late Cape Parliament, and has been the subject of a large number of commissions of inquiry and select committees. These have brought in the most divergent reports, but generally to the effect that the advantages of the island as a leper settlement considerably outweigh its disadvantages. The result has been to lead to chronic unrest amongst the lepers, a condition which has apparently been aggravated by lay administration. Dr. D. B. Hewat, member for Woodstock, stated in connexion with the motion that he had grave doubts whether leprosy, or at any rate anæsthetic leprosy, was contagious or infectious at all, and he pleaded for a commission of experts to go into the whole question afresh. A number of other members took part in the discussion and very divergent opinions were expressed. General Smuts, in reply, stated that the whole question must be sympathetically treated by the Government. The State had to be very careful to segregate lepers in the interests of the general community. He knew that there were matters to complain of at Robben Island. It would be impossible to administer a settlement of this sort without complaints. The Transvaal Leper Asylum, with which he was personally acquainted, was, he considered, one of the best in the world, and yet he had complaints from this asylum. He expressed his conviction that even if the patients from Robben Island were removed to the mainland, that would not stop agitation for release from segregation by the lepers. The line drawn in South Africa was, he considered, a safe one; the matter was very largely left in the hands of their experts. If a case was considered by

their experts suitable for segregation at home, then the patient was permitted under certain conditions to live at home, but, if not, then removal to an asylum was necessary. He thought that discussions on leprosy in the House could only lead to further agitation amongst the lepers, and he therefore deprecated the matter having been brought forward. He thought that the Government should vigorously encourage the prosecution of research on leprosy. The Cape Government had appointed a bacteriologist for leprosy research on the island, and this gentleman was doing good work. The present Government was trying in addition to persuade Dr. G. Turner, formerly medical officer of health of the Transvaal, and one of the greatest experts on leprosy in the world, to return to South Africa. It was, in his opinion, useless having commissions on leprosy, but he quite agreed that they should endeavour to advance their knowledge of the disease by employing trained medical men to undertake research work at existing asylums. With this the debate ended. It is, I think, fully recognised by most medical men that there are drawbacks from a medical point of view to Robben Island as a leper settlement, but these drawbacks are mostly capable of being remedied. Moreover, the leper inhabitants on the island are not confined to small areas, but are able to roam at will over practically its whole extent. Although it has often been represented that Robben Island is unsuitable, and that its leper inhabitants will never be contented until removed to the mainland, it is of interest to note that when the Government of the Orange River Colony in 1908 or 1909 formed a leper settlement in that colony, and arranged for the withdrawal of its lepers from Robben Island, a large number of these lepers are stated to have strongly objected, on the grounds that they were well aware that they enjoyed greater freedom and lived under happier conditions than would be possible if settled inland in their own State.

Memorial to the late King.

Her Excellency the Viscountess Gladstone is, it is understood, about to make an appeal to the public in South Africa for funds to establish a national memorial to his late Majesty King Edward VII. A few weeks ago a number of influential people were called to Government House, Cape Town, when, after discussing the proposal, the following resolutions were agreed to:—

1. That this meeting resolves that it is advisable to raise a national South African fund with the object of establishing a memorial to his late Majesty King Edward VII.
2. That a Provisional Committee be formed to consider the question of devoting the fund to the formation of a nursing association or some other scheme for the alleviation of human suffering, as to the estimated scope and requirements of such a project, what funds would appear to be needed for the various schemes, holding in view the permanent nature of the object, and generally to report.

It is believed that Her Excellency's own proposal is likely to be adopted—namely, the establishment of an order of trained nurses on the lines of those which have been instituted in India, Canada, and Australia. The nurses under such a scheme would be allocated to different districts and would be controlled by district committees composed of local representatives under the general supervision of a central committee, the expenses of maintenance being met partly by fees fixed as far as possible within the means of those requiring the attendance of the nurses, and partly from a central fund raised by public subscription. The alternative proposal is the establishment of one or more central sanatoriums for consumptives. There is no doubt of the need for a scheme for supplying district nurses to outlying villages in South Africa. Those of us who have been in practice in the smaller towns and villages up country know of the grave disabilities under which work has often to be done, owing to the lack of trained nursing assistance. In most up-country places medical men do not attend many midwifery cases except among the wealthier classes, and the majority of confinements are attended by coloured midwives, without training and generally of filthy habits. No wonder, therefore, that the amount of puerperal fever in this country is excessive. If the committee can devise a satisfactory scheme for supplying trained nurses and the scheme can be given effect to much good will result, not only directly, but indirectly, owing to the educative influences which would be at work with the advent of trained nurses into ignorant households—a truly national memorial to a great king.

Jan. 2nd.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Treatment of Snake-bite.

IN July, 1909, the Madras Government requested the surgeon-general in charge of the Civil Medical Department of the presidency to submit proposals for bringing into more general use among the public the treatment of snake-bite with Sir Lauder Brunton's lancets and permanganate of potash. In October of the same year the Madras Government approved the surgeon-general's proposal to obtain 12,000 lancets for distribution among its subordinates and others in the presidency. The Hon. Surgeon-General P. H. Benson, I.M.S., in his first annual report on the subject, recently issued, describes 15 cases of snake-bite thus treated. He states no definite opinion can be formed as to the efficacy of the treatment until the total number of cases treated with the lancets is fairly large. The Government, in a covering memorandum on the report, considers that the information supplied regarding these cases is so incomplete as to make any deductions from it impossible. It is evident that if any useful information is to be obtained from the experiment further instructions are necessary. It is essential to any useful conclusion that the identity of the snake by which the bite was inflicted shall be authoritatively determined. Directions have accordingly been issued as to sending the snakes killed for identification to the superintendent of the Madras Museum.

A New Hospital for Aundh State.

The need of good hospitals is nowhere more felt than in the native States which are dependent on their own revenues for the erection and maintenance of dispensaries and such-like institutions. In the Aundh State there are at the present time only three dispensaries, situated at long distances from one another, and this fact has been early recognised by the present occupant of the *gadi*, Shrimant Bala Saheb, Pant Prathinian, who shortly after his installation, towards the close of 1909, sanctioned an estimate for the building of a hospital in the capital city, Aundh. At his invitation several European and native gentlemen recently witnessed the ceremony of laying the foundation-stone. A small camp has been laid out by Mr. Jussuff H. Jaffer of Poona, and the comfort of the guests during their brief stay was well looked after by him, and the State Karbhari, Khan Bahadur Jacob Bapuji. The ceremony of laying the foundation-stone of the institution was performed by Mr. Bonus, I.C.S., Collector of Satara and Political Agent of the Aundh State, before a large gathering assembled in a decorated *shamiana* on the building site, and before a large gathering of native officials and gentlemen of the State. The site selected is an elevated piece of ground (about four acres in extent) in the township of Aundh, and the building when completed is estimated to cost close on Rs. 40,000. It will be a stone structure 150 feet in length by 30 feet in breadth, of a single storey, and will be in charge of an Indian medical man, and is to be called "The King-Emperor Edward the Seventh Hospital."

Sanitation in Kashmir.

The cholera epidemic, which appeared in Srinagar and thence spread to other parts of Kashmir last summer, has again drawn attention to the insanitary condition of that otherwise charming country. Municipal scavengers under proper supervision would work wonders for the sanitation of Srinagar. The provision of a good supply of potable water would involve considerable expenditure, but improvement in the health of Srinagar largely depends on there being every year some extension of a water-pipe connexion into areas where at present the people depend for their drinking-supplies on all sorts of contaminated sources. Long years of misery and poverty have made the people lazy and indifferent, ready to follow blindly the insanitary practices of their fathers, but every additional hydrant helps to wean a certain number from their ancient customs and leads them to value the provision of a pure water-supply. As the City of London was freed from the visitations of plague by the Great Fire, which swept away thousands of crowded tenements and insanitary areas, so it is probable a great conflagration might not be an unmixed evil in many an eastern town. But

without such a drastic remedy in Srinagar there is much that can be done in the way of immediate improvement. To carry out all the obvious reforms nothing more is required than common-sense, energy, perseverance, and a sufficient supply of money. Expenditure under proper sanitary supervision would speedily repay itself. An epidemic such as that of last summer does more than merely carry off a thousand or so of valuable lives, it dislocates State administration, paralyses trade, and frightens away visitors, thereby depriving the State of the very large sums annually spent in the country. For this reason the improvement of sanitation in the capital town of the State of Kashmir is a work which should commend itself to the authorities as urgently necessary and economically sound. The appointment of a suitably qualified medical officer of health such as is being done in the larger towns in India might well repay the State.

The Prevention of Malarial Fevers.

The Lieutenant-Governor of Bengal has appointed a Provincial Malaria Committee composed as follows: President, the Executive Member of Council in the Municipal (Medical) Department, the two secretaries in the Public Works Department, Major Leonard Rogers, I.M.S., Assistant Surgeon U. N. Bramachari (Teacher of Medicine, Campbell Medical School), Dr. Nil Ratan Sircar, and the Sanitary Commissioner of Bengal (secretary). It is hoped that by the appointment of this committee the inquiries regarding malaria will be conducted on more systematic lines than hitherto has been the case, and a coördination will be secured with the lines of prevention taking place in other parts of India.

Jan. 12th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Peculiar Poisoning Case.

A REMARKABLE case of poisoning has occurred at Prahran, an industrial suburb of Melbourne. A family, consisting of a mother and three daughters, partook of a meal which comprised ham sandwiches, tinned tongue, cucumber, and ice-cream. Shortly afterwards the mother and two of the daughters were taken violently ill. One girl died within 24 hours and the second was removed to the Alfred Hospital, where she also died a few days later. The cases were regarded as ptomaine poisoning, and although a magisterial inquiry was held after the second death the magistrate decided that no necropsy was necessary. A day or two later the mother, who had been under treatment by Dr. C. A. Altmann, also died suddenly after having apparently convalesced. Dr. Altmann refused a certificate and insisted on a necropsy, which was made by Dr. Crawford Mollison, who discovered large quantities of arsenic in the body. The bodies of the two girls were thereupon exhumed, and it is stated that arsenic has also been found in each body. The third sister now stands charged with the murder of her mother, the police having found that this daughter purchased arsenic from a local chemist for the alleged purpose of destroying rats. The case has been adjourned pending the completion of the coroner's inquiry.

Medical Inspection of Schools.

The first report of the inspection of Victorian State school children has been issued. Under an outline scheme in the report it is proposed that each child shall be examined four times during its school career, or once in two years. There are 90,000 children in urban areas, and these will be first dealt with. An estimate is made of 34,000 yearly examinations, which will entail six extra inspectors in addition to the three at present acting. It is recommended that they be paid £400 each per annum. Eight part-time officers at £50 each per year are also recommended. The present report deals with about 3000 children. The examiners say: "The marked prevalence of certain defects has been very evident, but no less evident has been the rarity of other well-known defects—for example, tuberculous glands in the neck, trachoma, skin diseases generally, and special deformities such as club-foot, hare lip, and infantile paralysis. There has been a relatively small number of children giving a history of scarlet fever, diphtheria, or rheumatism." As regards defective vision, 6·8 per cent. are stated to have shown gross defect and 10·5 per cent. slight defect. Hearing showed 8·5 per cent. with gross defect and 10·5 per cent. with slight. Nine per cent. of boys and 6 per cent. of girls showed under-nutrition; 13·5 per cent. of girls but no boys showed over-nutrition.

Radium.

The Treasurer of Victoria has obtained from Dr. B. B. Ham, chairman of the Board of Health, a report on radium, and the advisability of making a supply available for medical men. Mr. Watt states the Government will take up any feasible scheme that may be presented for such a purpose.

Early Closing for Pharmaceutical Chemists.

An early closing movement for chemists has been mooted in New South Wales, under which it is proposed that only urgent prescriptions shall be dispensed after hours. The proposal has not yet assumed definite shape, but some medical men in club practice consider that their work would also be lightened by an earlier closing of chemists' shops. The usual hour at present is 9 P.M.

Obituary.

The death is announced of Dr. Mary Page Stone in very sad circumstances. The late Dr. Stone was visiting a patient on her bicycle and collided with a dray, being thrown violently to the ground. At first her injuries did not appear serious, but she collapsed suddenly and died from internal hæmorrhage about 12 hours after the accident. Dr. Stone was a graduate of the University of Melbourne with a distinguished record, and had a large private practice. She was also a prominent member of various philanthropic and educational movements, particularly as regards the education of women.

Dec. 20th, 1910.

Obituary.

FREDERICK MELLAND, M.R.C.S. ENG., L.S.A.

BY the death of Mr. Frederick Melland the medical profession in Manchester has lost its oldest link with the past. He was born at Alport in Derbyshire in 1818, and had nearly completed his ninety-third year at the time of his death on Jan. 17th. He died at his house in Victoria Park, Rusholme, in which neighbourhood he had lived during almost the whole of his active medical life. The old system of apprenticeship was, of course, in existence in his early days, and he began his career as an apprentice in Sheffield, going to Manchester to complete his studies. He passed the examination of the Society of Apothecaries, the "Hall," as it used to be called, in 1840, and the Royal College of Surgeons of England, in 1841. After being for a time one of the resident officers at the Royal Infirmary, he settled down to a long and honourable career of general practice, from which he retired only about ten years ago. He was greatly respected by a wide circle of patients and friends for his genial, kindly disposition and loyalty, and attracted and impressed those with whom he had social or professional relations. His own practice did not, however, absorb all his energies, for he was connected with the Chorlton Dispensary and the Ancoats Hospital for many years. When any man lives to his ninety-third year it is not surprising to hear that he was a man of fine physique and activity. Only a few months ago he went to London to be present at the wedding of his grandson, Mr. Herbert Asquith, the second son of the Prime Minister, for, in 1877, the Prime Minister married Mr. Melland's eldest daughter as his first wife. Mr. Melland was for 46 years district medical officer to what is now known as the South Manchester Union, being appointed in 1850 and retiring in 1896. At their last meeting the guardians passed a vote of regret and condolence with Mr. Melland's family, and the chairman, Mr. Macfarlane, in the course of his remarks, said, "He was a worthy citizen and a man who was held in the highest respect in this city." Mr. Melland's chief recreations were travel and reading, and although a Nonconformist he took a great interest in church architecture. He has left a family of several sons and three daughters. Two of the sons are in the medical profession, one practising in Bowdon and the

other in Manchester. The funeral took place on Jan. 21st at the Manchester Crematorium.

GEORGE BIRT, M.B. LOND., M.R.C.S. ENG., L.S.A.

THE death is announced as occurring at Teignmouth on Jan. 25th of Dr. G. Birt, second son of the late Dr. T. Birt of Leamington, at the age of 64 years. He matriculated at the University of London and entered the Birmingham Medical School, whence he obtained the diplomas of M.R.C.S. and L.S.A. After being resident on the surgical side of the General Hospital, Birmingham, he continued his studies at University College, and graduated in medicine at the University of London, gaining honours in anatomy and organic chemistry. He settled in Stourbridge, and up to the time of his retirement was engaged in a widespread general practice in that district. He held the post of honorary surgeon to the Stourbridge Dispensary. "His strenuous life," writes one who knew him well, "which did not permit of relaxation, recreation, or even an annual holiday, began to imprint its mark in 1903. Glycosuria and signs of arterio-sclerosis made their appearance. With unabated courage he continued work, ignoring all danger signals. At length in 1908 the incessant strain, unrelieved by rest, overcame him. He retired to Teignmouth an invalid. Early in December last cardiac compensation began to fail, hydrothorax developed and required frequent paracentesis. Uræmia closed the scene."

Dr. Birt married in 1877 the daughter of the late Dr. Campbell of Stourbridge, by whom he is survived. He leaves a son and two daughters.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Willibald A. Nagel, professor of physiology in the University of Rostock, after a long illness. He published numerous researches and papers dealing especially with the physiology of the mind. His age was 40.—Dr. Johann Csocor of Mödling, professor in the veterinary school and *docent* in the Vienna University Medical Faculty, aged 57.—Dr. Willis Goss Macdonald, professor of surgery in Albany Medical College.—Dr. Lesouef, formerly Member of the French Senate.—Dr. Hocquart, inspecting medical officer of the French army.—Dr. Alban de la Garde, formerly professor of pathology in the Poitiers Medical School.

Medical News.

UNIVERSITY OF LIVERPOOL.—At the examination for the Diploma in Public Health held recently the following candidates were successful:—

J. Green, S. M. Green, Blanche M. Z. Johnston, W. W. Mackarell, S. P. Mort, and J. F. Whelan.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Adolf Gutmann has been recognised as *privat-docent* of Ophthalmology and Dr. Hermann Beyer as *privat-docent* of Otology.—*Bologna:* Dr. A. Codivilla has been appointed Extraordinary Professor of Orthopædic Surgery.—*Buenos Aires:* Dr. Ricardo S. Gómez has been appointed to the chair of Descriptive Anatomy and Dr. Daniel J. Cranwell to that of External Pathology.—*Cagliari:* Dr. Giovanni Mandri has been recognised as *privat-docent* of Medicine.—*Heidelberg:* Dr. Moro of Munich has been offered the position of Extraordinary Professor of Children's Diseases and Director of the University Children's Clinic, in succession to Dr. Feer.—*Marburg:* Dr. M. Matthes, Director of the Academical Clinical Institutions in Cologne, has been appointed Professor of Medicine and Director of the Medical Clinic and Polyclinic, in succession to Professor Brauer, who is going to Hamburg.—*Rostock:* Dr. Karl Walter has been recognised as *privat docent* of Anatomy.—*Vienna:* Dr. Lothar v. Frankl Hochwart has been appointed Extraordinary Professor of Neurology, and Dr. Karl Landsteiner, Extraordinary Professor of Pathological Anatomy. The title of Professor has been granted to Dr. Rudolf Frank, *privat-docent* of Surgery; Dr. Alois Strasser, *privat-docent* of Hydrotherapy; Dr. Hans Koschier, *privat-docent* of Laryngology; Dr. Gustav Singer, *privat-docent* of Medicine; Dr. Josef Adolf Hirschl, *privat-docent* of Psychiatry; Dr. Ludwig Braun, *privat-docent* of Medicine; Dr. Karl Biehl, *privat-docent* of Otology; Dr. Wilhelm Lalzko, *privat-docent* of Gynæcology; Dr. Emil Raimann, *privat-docent* of Psychiatry; Dr. Julius Schottländer, *privat-docent* of Gynæcology; and Dr. Ernst Pick, Adjunct in the Institute of Serotherapy.

SLEEPING SICKNESS IN RHODESIA.—We understand that a special commission will be appointed by the British South Africa Company to investigate the share taken by the Glossina palpalis and morsitans in the transmission of sleeping sickness in Rhodesia. The commission, it is stated, will consist of Dr. Aylmer W. May of Northern Rhodesia, Dr. A. Kinghorn of Liverpool, Mr. H. Leach of Northern Rhodesia, Mr. O. Silverlock, entomologist, and Mr. Jollyman, bacteriologist.

FORTIETH CONGRESS OF THE GERMAN SURGICAL SOCIETY.—This Congress will take place from April 19th to 22nd, 1911, in Berlin (Langenbeckhaus, Ziegelstrasse, 10 and 11). The proceedings commence on April 19th at 10 A.M., with a celebration of the centenary of B. R. K. Langenbeck's birth. Sessions during the Congress will be held from 9.30 A.M. to 12.30 P.M., and from 2 to 4 P.M. The chief papers to be presented are the following: Free Transplantations, by Herr Lexer; The Disinfection of the Hands and of the Site of Operation, by Herr Küttner; Basedow's Disease, by Herr Kocher; and Cæcum Mobile, by Herr Wilms. These will be followed by papers upon Intravenous Narcosis, Duodenal Ulcer, and the Treatment of Varicose Veins. Dr. L. Rehn, Zimmerweg, 16, Frankfort a.M., is the President. Tickets of membership can be obtained up to April 10th from Herr Melzer, Ziegelstrasse, 10 and 11, Berlin, N. 24.

ARRANGEMENTS FOR CASES OF MEASLES BY THE SOUTHWARK GUARDIANS.—At the meeting of the Southwark board of guardians held on Jan. 12th a report was considered from Dr. H. W. Bruce, the medical superintendent at the infirmary, with reference to the transference of children suffering from measles to one of the fever hospitals of the Metropolitan Asylums Board. Dr. Bruce was strongly of the opinion that the transference of cases of measles, especially in winter, was fraught with great risk to the children, and it appeared to him that if all cases of measles were transferred to a fever hospital a considerable and unnecessary sacrifice of children's lives would be brought about. The children's committee reported that the proposal of the Metropolitan Asylums Board to receive children from the infirmary suffering from measles would not afford any reasonable possibility of reducing the congestion at the infirmary, owing to the fact that a medical certificate of three weeks' observation would be required, and in view of the medical superintendent's statements the committee urged that the Metropolitan Asylums Board be asked to use their vacant accommodation for children suffering from ophthalmia. Mr. T. Cornell said that the proposals of the Asylums Board were misunderstood. They did not propose that cases of measles should be first taken to the infirmary and then transferred to hospital. What was intended, and what was already being carried out in many parts of London, was that the poor cases of measles, for which an admission order to the infirmary had hitherto been given, should be removed direct from their homes to the nearest hospital of the Board, and that no medical certificate of three weeks' observation would be required. The present proposals were first put forward by the Local Government Board. They had been carefully considered by the Asylums Board in the light of experience throughout the country, including that of Edinburgh, Glasgow, and Liverpool, where permanent isolation accommodation was provided in infectious hospitals for cases of measles, and where it had been proved beyond question that measles could be safely treated in the same hospital as other infectious fevers. The Asylums Board had made the provision and it was being generally utilised. It was for the Southwark guardians to say whether they would take advantage of the opportunities offered for the benefit of children for whom they were responsible. The suggestion that children otherwise healthy who were suffering from ophthalmia should be taken into fever hospitals was quite impracticable. After

hearing Mr. Cornell's explanation, the board decided to send cases of measles to the institutions of the Metropolitan Asylums Board.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The Charter Day dinner will take place on Saturday, Feb. 11th. His Excellency the Lord Lieutenant has graciously accepted the invitation of the President and Fellows to be present at the dinner.

A PLYMOUTH CENTENARIAN.—MRS. A. Moore of Plymouth celebrated the anniversary of her 100th birthday on Jan. 19th. She was born near Bodmin, Cornwall, but has resided in Plymouth for the past 60 years.

LITERARY INTELLIGENCE.—Messrs. Rebman, Limited, will publish this month in Great Britain Major Paul P. Straub's "Medical Service in Campaign," which was reviewed by us in our issue of Jan. 7th. The price will be 6s. 6d. net.

Dr. W. T. Grenfell, C.M.G., Superintendent of the Royal National Mission to Deep Sea Fishermen, will deliver a public lecture in Queen's Hall, London, on Monday, Feb. 6th, at 8.30 P.M., entitled "Midst Ice and Snow in Labrador" (illustrated with lantern slides). The chair will be occupied by Sir Ernest Shackleton, C.V.O.

THE CARNEGIE HERO FUND.—Mr. Nelson Johnstone, L.R.C.P. & S. Edin., L.F.P.S. Glasg., who rendered assistance to Detective-Sergeant Leeson under a shower of bullets from the alien criminals who established themselves at the house in Sydney-street, Stepney, recently, has received a medallion and £25 from the trustees of the Carnegie Hero Fund.

THE METROPOLITAN HOSPITAL SUNDAY FUND.—At a meeting of the Metropolitan Hospital Sunday Fund, which was held under the presidency of the Lord Mayor at the Mansion House on Jan. 25th, the Rev. Prebendary Anderson was appointed a member of the distribution committee in place of the late Lord Stamford. The members of the general purposes committee and the finance committee were reappointed.

Dr. J. B. Yeoman, medical officer of the Wirral (Cheshire) union workhouse and of Heswall Sanatorium, has been appointed medical officer of health to the Wirral rural district council and six neighbouring urban district councils combining with it, at a salary of £500 a year for five years. The appointment is, of course, subject to the approval of the Local Government Board. The various district councils agree to contribute towards the medical officer's salary in proportion to their present rate assessments, the Wirral rural district council paying £179, the Hoylake and West Kirby urban district council £124, and the other urban district councils £83, £43, £29, £27, and £15 respectively. Dr. Yeoman is allowed to retain the workhouse and sanatorium appointments, but is required to give up his private practice and the union district and vaccination appointments which he holds, and to agree to accept no other public appointments without the consent of the combined councils.

ACTION FOR ALLEGED MEDICAL NEGLIGENCE.—In the Bow county court on Jan. 20th, before Judge Smyly, James John Darkins, a clerk, of Milton-avenue, East Ham, sued Mr. H. de B. Nelson, of Canning Town, for negligence. Mr. Medcalfe appeared for the plaintiff, and Mr. Matthew (on behalf of the London and Counties Medical Protection Society) for the defendant. Mr. Medcalfe said that the case was a serious one, involving the character and reputation of a medical man, but there was no desire on the part of the plaintiff to obtain damages for himself. He simply wanted the recoupment of extra expenses, amounting to between £40 and £50, caused, it was alleged, by the negligence of the defendant. During her confinement in March last the plaintiff's wife was attended by Mr. Nelson, and it was alleged that he left behind pieces of the placenta. After several attacks of hæmorrhage an operation was performed by another practitioner; septic poisoning set in and she died early in May. The allegation was that the defendant was negligent in his attendance and also in his treatment, consequent on which the plaintiff was involved in extra expense in engaging medical men and nurses. The plaintiff gave evidence in support of his counsel's statement. His honour, in summing up, directed the attention of the jury to a letter written by the plaintiff after his wife's death, in which he appealed to the generosity of the defendant to enable him to meet the debts which had been incurred in consequence of the illness. They had to say whether that was a letter which one man would write to another whom he believed to have been the cause of his wife's death. The jury returned a verdict for the defendant. Judgment was given accordingly, with costs.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Aids to Pathology. By Harry Campbell, M.D., B.S. Lond., F.R.C.P. Second edition. Price, cloth, 3s. 6d. net; paper, 3s. net.

BALE (JOHN), SONS, AND DANIELLSSON, LIMITED, London.

Modern Surgical Technique in its Relation to Operations and Wound-Treatment. By C. Yelverton Pearson, M.D., M.Ch., F.R.C.S. Second edition. Revised and enlarged. Price 10s. 6d. net.

BLACK, ADAM AND CHARLES, London.

An Introduction to Chemical Theory. By Alexander Scott, D.Sc. Edin., Sc.D. Camb., F.R.S. Second edition. Price 5s. net.

CHUNDRA, J. L., 5, Gopee Kristo Paul's Lane, Calcutta.

A Treatise on Treatment. Designed for the Use of Practitioners and Students of Medicine. By Jogender Lal Chundra, L.M.S. (Calcutta University). First edition. Price not stated.

CHURCHILL, J. AND A., London.

Allen's Commercial Organic Analysis. Volume IV. Fourth edition. Entirely rewritten. Edited by W. A. Davis, B.Sc., A.C.G.I., and Samuel S. Sadtler, S.B. Price 21s net.
A Manual of Gynæcology. By Thomas Watts Eden, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Edin. Price 18s. net.

ÉCOLE DE MÉDECINE TROPICALE, Junqueira, Lisbon.

Archivos de Hygiene e Pathologia Exoticas. Publicação dirigida pela Escola de Medicina Tropical de Lisboa. Volume III. Fasciculo 1º. Publicado em 15 de Novembro de 1910. Price 8l.

FISCHER, GUSTAV, Jena.

Plasma und Zelle. Eine Allgemeine Anatomie der lebendigen Masse. Bearbeitet von Prof. Dr. Martin Heidenhain in Tübingen. Zweite Lieferung: Die Kontraktile Substanz, die Nervöse Substanz, die Fadengerüstlehre und ihre Objektive. Price, paper, M.23; bound, M.24.50.
Untersuchungen über Rachitis und Osteomalacie. Von Friedrich von Recklinghausen, weiland Professor in Strassburg. (Atlas und Text.) Price M.60.
Über Geschwülste der hinteren Schädelgrube, insbesondere des Kleinhirnbrückenwinkels. Klinische und Anatomische Studien. Von Dr. Folke Henschen, Stockholm. Price M.10.
Lehrbuch der Chirurgie. Herausgegeben von Prof. Wullstein und Prof. Wilms. Zweite umgearbeitete Auflage. Dritter Band: Extremitäten. Price, paper, M.10.50; bound, M.11.50.
Operative Chirurgie der Harnwege. Normale Anatomie und Chirurgische Pathologische Anatomie. Von J. Albarran. (Paris.) Ins Deutsche übertragen von Dr. Emil Grunert. (Dresden.) Dritte Lieferung. Price M.9.50.
Die Morphologie der Missbildungen des Menschen und der Tiere. Unter Mitwirkung zahlreicher Fachgenossen. Herausgegeben von Dr. Ernst Schwalbe. (Rostock.) III. Teil. Die Einzelmissbildungen. IV. Lieferung. 2. Abteilung. 5 Kapitel. Die Missbildungen des Gebisses. Von H. Peckert. Price M.2. V. Lieferung. 2. Abteilung. 6. Kapitel. Die Missbildungen des Ohres. Von Hermann Marx. Price M.2.50.
Sammlung Anatomischer und Physiologischer Vorträge und Aufsätze. Herausgegeben von Prof. Dr. E. Gaupp und Prof. Dr. W. Nagel. Heft 13. Die Aeussern Formen des Menschlichen Körpers in ihrem allgemeinen Zustandekommen. Von Prof. Dr. E. Gaupp, Freiburg i.Br. Price not stated.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Text-book of Massage. By L. L. Despard, Member and Examiner, Incorporated Society of Trained Masseuses. Price 10s. 6d. net.
Handbook of the Surgery of the Kidneys. By W. Bruce Clarke, M.A., M.B. Oxon., F.R.C.S. Price 10s. 6d. net.
Diseases of the Spinal Cord. By R. T. Williamson, M.D. Lond., F.R.C.P. Second Impression. Price 15s. net.

HAZELL, WATSON, AND VINEY, LIMITED, London.

Hazell's Annual for 1911. Edited by Hammond Hall. Twenty sixth Year of Issue. Price 3s. 6d. net.

JACK, T. C. AND E. C., London and Edinburgh.

The Bacillus of Long Life: A Manual of the Preparation and Souring of Milk for Dietary Purposes. By Loudon M. Douglas, F.R.S.E. Price 5s. net.

KIMPTON, HENRY, London. (STENHOUSE, ALEXANDER, Glasgow.)

An Anatomical and Surgical Study of Fractures of the Lower End of the Humerus. By Astley Paston Cooper Ashhurst, A.B., M.D., Prosector of Applied Anatomy in the University of Pennsylvania. The Samuel D. Gross Prize Essay of the Philadelphia Academy of Surgery, 1910. Price 14s. net.

LAURIE, WERNER, London.

With the Red Cross in the Franco-German War, A.D. 1870–1. Some Reminiscences by Henry Rundle, F.R.C.S., Consulting Surgeon to the Royal Portsmouth Hospital. With an Introductory Note by F. Howard Marsh, M.A., M.C.Cantab., F.R.C.S. Price 2s. 6d. net.

LEWIS, H. K., London.

Hygiene and Public Health. By Louis C. Parkes, M.D., D.P.H. Univ. of Lond., and Henry R. Kenwood, M.B., F.R.S. Edin., D.P.H. Lond. Fourth edition, with illustrations. Price 12s. 6d. net.

Public Health Laboratory Work. By Henry R. Kenwood, M.B., F.R.S. Edin., D.P.H., F.C.S. The Part dealing with Public Health Bacteriological Work is contributed by W. G. Savage, M.D. Lond., B.Sc., D.P.H. Fifth edition, with illustrations. Price 10s. net.

Practical Bacteriology, Blood Work, and Animal Parasitology. Including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes. By E. R. Stitt, A.B., Ph.G., M.D., Surgeon, U.S. Navy. Second edition, revised and enlarged. Price 6s. 6d. net.

Landmarks and Surface Markings of the Human Body. By L. Bathe Rawling, M.B., B.C. Cantab., F.R.C.S. Eng. Fourth edition. Price 5s. net.

Meningitis, Sinus Thrombosis, and Abscess of the Brain. With Appendices on Lumbar Puncture and its Uses and Diseases of the Nasal Accessory Sinuses. By John Wyllie, M.D. Price 6s. 6d. net.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

Diseases of the Anus, Rectum, and Sigmoid. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College. Price 21s. net.

International Clinics. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U.S.A., with Collaboration. Volume IV. Twentieth Series, 1910.

REID, ANDREW, AND COMPANY, LIMITED, London and Newcastle-upon-Tyne.

University of Durham. Armstrong College, Newcastle-upon-Tyne. Calendar. Session, 1910–1911. Price 1s.; post free 1s. 4d.

SANITARY PUBLISHING CO., 5, Fetter-lane, London, E.C.

The Sanitary Record Year Book and Diary, 1911. Price 2s. 6d. net.

TIP. LABICANA—F. LLI TEMPESTA, Via de'Delfini, I, Roma.

Studi Intorno ad Alcune Malattie Tropicali della Calabria e della Sicilia. Fasc. II. Per Opera di U. Gabbi, Fr. Lacava, F. Scordo, A. Visentini, G. Franchini. Fasc. III. Per Opera di U. Gabbi, Fr. Lacava, A. Visentini, G. Franchini. Price not stated.

WOODALL, MINSHALL, THOMAS AND CO., Caxton Press, Oswestry.

Prifysgol Cymru. The Calendar of the University of Wales for the Academic Year, 1910–1911. (All communications to be addressed to the Registrar of the University of Wales, University Registry, Cathays Park, Cardiff.) Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAM, ROBERT, M.B., B.S. Glasg., has been appointed Supernumerary Assistant Gynæcologist to the Glasgow Maternity and Women's Hospital.

BEVIR, GEORGE, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Priston District by the Keynsham (Somerset) Board of Guardians.

CAMERON, S., M.B., B.S. Glasg., has been appointed Visiting Gynæcologist to the Glasgow Maternity and Women's Hospital.

COLERIDGE, ALFRED, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Moretonhampstead (Devon) Cottage Hospital.

CORE, DONALD E., M.D., Ch.B. Vict., has been appointed Resident Medical Officer at the Manchester Royal Infirmary.

DEBONO, GIORGIO, Professor of Midwifery, Malta University, has been appointed Clinical Assistant at the Chelsea Hospital for Women.

DOTTRIDGE, C. A., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant at the Chelsea Hospital for Women.

DUFF, DONALD, L.R.C.P. Edin., F.R.C.S. Edin., has been appointed Assistant Gynæcologist to the Glasgow Maternity and Women's Hospital.

ELLIS, ERNEST ALFRED, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Ashburton (Devon) Cottage Hospital.

HEWAT, A. MIDDLETON, M.B., Ch.B. Edin., D.P.H., has been appointed Assistant Medical Officer of Health and Assistant School Medical Officer to the City of Lincoln.

HORNE, MAYNARD, M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Assistant Anæsthetist to St. George's Hospital.

HUGHES, E. E., M.B., Ch.B. Vict., has been appointed Resident Medical Officer at the Barnes Convalescent Hospital, Cheadle.

HUNT, ALBERT WILLIAM DUNNING, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Moretonhampstead (Devon) Cottage Hospital.

JARDINE, ROBERT, M.D., M.S. Edin., has been appointed Visiting Gynæcologist to the Glasgow Maternity and Women's Hospital.

KEBBELL, C. V., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the Queen's Hospital for Children.

KIRKLAND, J. T., M.B., B.S. Glasg., has been appointed Gynæcological House Surgeon to the Glasgow Maternity and Women's Hospital.

LANGMEAD, FREDERICK, M.D. Lond., has been appointed Assistant Physician to the Royal Free Hospital.

LAURIE, LEO VICTOR, M.B., C.M. Edin., has been appointed Honorary Medical Officer to the Moretonhampstead (Devon) Cottage Hospital.

MCKENZIE, HENRY VALENTINE, M.D., C.M. Edin., has been appointed Honorary Ophthalmic Surgeon to the Moretonhampstead (Devon) Cottage Hospital.

MARTIN, J. H., M.B., B.S. Glasg., has been appointed Assistant Gynæcologist to the Glasgow Maternity and Women's Hospital.

NICOLL, AGNES H., M.B., Ch.B. St. And., D.P.H. Vict., has been appointed Junior Resident Medical Officer at the Dundee East Poorhouse and Hospital.

ROBERTSON, W. H., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Colne District of the county of Lancaster.

SANKEY, WILLIAM OCTAVIUS, M.D., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Ashburton (Devon) Cottage Hospital.

TAYLOR, JAMES, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Supernumerary Assistant Gynæcologist to the Glasgow Maternity and Women's Hospital.

TURLE, JOHN GLANVILLE, L.D.S. Irel., has been appointed Honorary Dental Surgeon to the Moretonhampstead (Devon) Cottage Hospital.

TYLECOTE, F. E., M.D., Ch.B. Vict., has been appointed Medical Registrar at the Manchester Royal Infirmary.

WILLIAMS, S., M.D. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Llanelly District of the county of Carmarthen.

WOODS, ROBERT STANTON, M.D. Lond., M.R.C.P. Lond., has been appointed Physician in Charge of the Physico-Therapeutical and the Electrical Departments of the London Hospital and to the charge of the Tyrnauer Baths.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, &c.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Senior Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with apartments, board, and laundry.

BROADMOOR, CROWTHORNE, BERKS, STATE CRIMINAL LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, coal, gas, and attendance

CHELTENHAM EYE, EAR, AND THROAT FREE HOSPITAL.—House Surgeon. Salary £200 per annum.

CHESHIRE EDUCATION COMMITTEE.—Third Assistant Medical Inspector of School Children. Salary £350 per annum.

DISTRICTS OF NESTING AND LUNNASTING, PARISH OF NESTING, &c.—Medical Officer. Salary £50 per annum.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months Salary £75 per annum, with residence, board, and washing.

DUNBARTON COUNTY SECONDARY EDUCATION COMMITTEE.—Two Medical Inspectors of School Children. Salary £300 per annum.

ECCLESALL BIERLOW UNION WORKHOUSE.—Resident Assistant Medical Officer. Salary £150 per annum, with board, washing, and apartments.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Surgeon for five months. Salary at rate o £60 per annum, with board, residence, and washing.

HALIFAX UNION POOR-LAW HOSPITAL.—Resident Medical Officer. Salary £110 per annum, with apartments, rations, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Resident Medical Superintendent. Salary 100 guineas per annum, with board and residence. Also Anæsthetist. Salary £15 15s. per annum.

HOSPITAL FOR WOMEN, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £60 per annum.

LEEDS GENERAL INFIRMARY.—House Physician. Board, residence, and washing provided.

LONDON TEMPERANCE HOSPITAL.—Assistant Resident Medical Officer for six months. Salary at rate of 50 guineas per annum, with board, residence, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80, with board and residence.

MANCHESTER ROYAL INFIRMARY.—House Physicians and House Surgeons, unmarried, for six months. Board and residence provided.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

NEWCASTLE, Co. WICKLOW, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION FOR IRELAND.—Junior Resident Medical Officer. Salary £100 per annum, with residence and board.

NEWCASTLE-UPON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY AND THE UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Assistant to Professor of Pathology. Salary £150 per annum.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer on Physiology. Salary £200 per annum.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—House Physician and Junior House Surgeon, both unmarried and for six months. Salary in each case at rate of £80 per annum, with board, &c.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Pathologist. Salary £50 per annum. Also Honorary Anæsthetist once a week. Salary £20 per annum. Also Junior House Physician. Salary £50 per annum, with residence, board, and laundry.

RAINHILL COUNTY ASYLUM, near Liverpool.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

RANSOM SANATORIUM FOR CONSUMPTIVES, Sherwood Forest, near Mansfield, Notts.—Resident Medical Officer (female). Salary £100 per annum, with board, residence, and washing.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Clinical Assistants.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Medical Officer in Charge of Department for X Rays and Electro-Therapy. Salary at rate of £60 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Twelve Commissions.

ST. PAUL'S HOSPITAL FOR SKIN AND URINARY DISEASES, Red Lion-square, W.C.—Clinical Assistant.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £60 per annum, with apartments, board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Seventh Resident Medical Officer. Salary £80 per annum, with board and residence.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—Two Honorary Assistant Physicians, Two Honorary Assistant Surgeons, and One Honorary Surgeon in Charge (jointly with another) of the Electrical Department.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Honorary Medical Registrar.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Hexham, in the county of Northumberland; and at Southampton, in the county of Hants.

Births, Marriages, and Deaths.

BIRTHS.

SMITH.—On Jan. 29th, at Sussex Cottage, Kenninghall-road, Clapton, N.E., the wife of Montague Smith, M.R.C.S., L.R.C.P. Lond., of a son.

THOMPSON.—On Jan. 28th, at Highlands, Newbury, the wife of Arthur Thompson, B.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MARRIAGES.

BANKOLE-BRIGHT—BISHOP.—On Jan. 15th, at Wesley Chapel, Freetown, Sierra Leone, Herbert Christian Bankole-Bright, L.R.C.P., L.R.C.S. Edin., &c., son of the late Jacob Gulba Bright, Esq., merchant of that city, to Addah Maud, youngest daughter of the late Honourable T. Colenso Bishop, ex-Mayor of that city, and sister of Councillor F. A. Bishop, J.P.

ELLIS—ANDREWES.—On Jan. 25th, at Cape Town, Francis Heygate Ellis, M.R.C.S., L.R.C.P., to Muriel Floyd Andrewes, youngest daughter of the Rev. John Floyd Andrewes, Rector of Bonchurch, Isle of Wight.

GUNNING—GADDUM.—On Jan. 26th, at Holy Trinity Church, Brompton, by the Rev. David Green, Vicar of Bramley, Guildford, assisted by the Rev. A. W. Gough, Vicar of the parish, Charles John Hope Gunning, M.R.C.S., L.R.C.P., to Violet, widow of Roger Gaddum, and younger daughter of Mr. and Mrs. Frederic Lawrence.

DEATHS.

BIRT.—On Jan. 25th, at Teignmouth, George Birt, M.B Lond. M.R.C.S., L.S.A., aged 64 years.

RENTON.—On Jan. 23rd, at Great King-street, Edinburgh, Brigade-Surgeon Lieutenant-Colonel David Renton, M.D., A.M.S., of the 15th Hussars (retired), aged 73 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE FOUNDER OF "THE LANCET."

To the Editor of THE LANCET.

SIR,—May I add to "Bookworm's" citation one or two references to Mr. Thomas Wakley in out-of-the-way literature?

"Sketches by Boz" are, I surmise, but little read in the present day. Written, as they were, at the very outset of Dickens's literary career, they describe social conditions which have since undergone considerable change and are now chiefly interesting to the antiquarian. One article is entitled "A Parliamentary Sketch, with a few Portraits." Of these clever little portraits—word-portraits, of course—five are those of Members of the House of Commons. Thanks to a former owner of my old copy of the "Sketches" (with its capital Cruikshanks), who has thoughtfully supplied in now very faded pencillings the names of the first two upon leaf margins, I am able to identify four of these gentlemen—Colonel C. D. W. Sibthorp, Mr. Thomas Duncombe, Mr. Thomas Wakley, and Mr. John Gully; the identity of the fifth I should like very much to fix. "Boz" points Mr. Wakley out to his readers in these words: "..... the large man in the cloak with the white lining—not the man by the pillar; the other with the light hair hanging over his coat collar behind." If I mistake not, Dickens lived at that time (about 1836) in the Finsbury constituency. (Mr. Gully, it may be stated parenthetically, had been in early manhood, if not an all-victorious, a very successful, votary of the prize ring, afterwards flourishing into a wealthy coal-owner, and Member of Parliament.)

In another book, which is quite rarely met with in the present day, a three-volume work entitled "The Mountain Decameron," written by a medical man (Mr. Joseph Downes) and published in 1836, and highly favourably reviewed, moreover, in the *Quarterly* of the day, the author (vol. iii., p. 275) ridicules the "devoted gallantry" of those Reformers who "value not their heart's blood 'three skips of a louse'" when the "glorious cause of Freedom" is in question. He says: "How! *blood?* Shed your pure blood? Dear, noble gentlemen, do let Mr. Wakley take it, more quietly—with his Lancet, and *be sure*, from the *head*. ..... Your blood, gentlemen, is not exactly the thing wanted by your country, but your good sense and the obedience of a free subject, and its example to the multitude."

There are again allusions to Mr. Wakley in an old book which I have of cuttings, chiefly of leading articles, from the London daily papers of 1829, 1830, and 1831, which clearly indicate that even at this early stage of his eventful career, and when medical reform was levying so heavy a toll upon his time and energies, he yet was in the van in the political struggles of the time. A noticeable thing about these references is that though they occur in cuttings from anti-Reform papers they are consistently marked by a respectfulness that is always denied the other Reform leaders. For instance, "Wakley" is never met with, but "Mr. Wakley." In one place are mentioned "the consistent revolutionists under the guidance of Mr. Wakley"; in another, "Mr. Wakley absolutely governed the meeting," turning the tables, it is explained, upon the "desperadoes"; while farther on he is styled "the Editor of the *Ballot*." In an alarmist 16-page political pamphlet, too, of the same period, entitled "Householders in Danger from the Populace" it is explained that "it is proper to acquit Mr. Wakley, who was to have presided at the meeting [in White-Conduit fields] of connexion with the desperadoes, even to the extent of being totally unacquainted with their projects."

With regard to Mr. Wakley as an orator, Mr. G. H. Francis says in his "Orators of the Age" (1847), at p. 318: "Some of his 'points' have from time to time told remarkably well; such, for instance, as that in which he described the Whig Ministry as being made of 'squeezable' materials. That one expression contributed considerably towards gaining for him the position he holds in the estimation of the House of Commons." I give this quotation for the purpose of asking whether this very expressive term, which is often used in the present day, originated with Wakley. Francis speaks as if it did, and he was just the one who ought to know.

Yours faithfully,

Stoke Newington, N., Jan. 16th, 1911. WM. ROBERTS.

TUNGSTEN IN COURT.

IT is a sign of the times surely when comparatively unheard-of metals become the subject of litigation. Not very many years ago there seemed to be only a limited field of application for tungsten, but now the curiously heavy metal has given rise to an industry of the utmost importance. Carbon has been replaced by tungsten in the filament of the incandescent electric lamp with enormous economic advantages. The conclusion of the recent tungsten lamp patent case promises to place the supply of metallic filament lamps on a more satisfactory basis to both the manufacturer and to the consumer of current for lighting purposes. It appears that the patents of the Osram Lamp Company, the interests of which are controlled in this country

by the General Electric Company, Limited, had been the subject of infringement by Messrs. Boddy and Co. of London, who dealt in Philips tungsten lamps, manufactured by the Philips Metallic Glow Lamp Works Company, Limited, in Holland. The action, which threatened to be a very protracted one, fell through suddenly on the defendants, Messrs. Boddy, consenting to an injunction being granted against them with costs. It was subsequently announced that the Philips Company had acquired from the Osram Company a licence on a royalty basis in respect of the patents under dispute. The public incurs now, therefore, no liability of patent litigation by purchasing the metal filament lamps made under licence granted by the Osram Company (The General Electric Company, Limited) from the defendants in the above case. Some technically-minded people may naturally enough express disappointment that the action did not proceed, for in that case some interesting particulars as to how exactly the metallic filament lamp was made would have been revealed.

FERTILITY.

To the Editor of THE LANCET.

SIR,—I should like to know what are the chances and probabilities of fecundity in a woman of 36, who has just been married. How many years longer would she be likely to be fertile?

I am, Sir, yours faithfully,

Jan. 29th, 1911. OBSTETRICS.

*** We have answered the questions in our editorial columns.—ED. L.

BOVRIL.

ON Thursday, last week, the Bovril Company gave a large number of medical men from the provinces an opportunity of inspecting the various processes concerned in distributing bovril to the public all over the world. The model premises in Old-street are fitted up with a variety of most ingenious machines for bottling bovril under completely sanitary conditions, and particular interest was taken in the packing-case department in which boxes are made and the parts nailed together by machine. During the afternoon a special demonstration was given by means of the kinematograph of the phenomenon of agglutination of the spirochætæ of fowls, the exhibition including also tick fever, sleeping sickness, Vincent's angina, and syphilis. This demonstration was a source of great interest to the visitors. Lunch was provided, at which over 1200 medical men sat down. Subsequently the Earl of Erroll, K.T., addressed the visitors in a brief speech, in which he explained the great care which the company bestowed upon the preparation of bovril. Sir James Crichton-Browne followed, and referred to the recent physiological experiments which had been made by an independent observer, in which it was shown that bovril increased the assimilation of food very considerably.

A QUEER SYMPTOM.

To the Editor of THE LANCET.

SIR,—I shall be glad if any of your readers can help me to treat a troublesome symptom in one of my patients that so far I have been unable to mitigate. A lady, aged 57, complains of a more or less constant "hot, peppery" taste in her mouth and on her tongue. There is no discoverable organic nervous lesion, and her general health is satisfactory. Suggestions as to pathological causation and treatment will be gladly received by,

Yours faithfully,

Jan. 24th, 1911. CAPSICUM.

P.S.—I have been giving her a course of valerian, in the form called bornyval.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1911:—

Feb. 20th–25th (Cairo).—Fifth International Congress for the Blind.
March 2nd–6th (Berlin).—Thirty-second Balneological Congress.
,, 23rd (Paris).—First Congress of French Medical Journalists.
April 4th–7th (London).—Fourth Annual Nursing and Midwifery Conference and Exhibition.
April 18th–20th (Paris).—Third Congress of Physiotherapy of French-speaking Physicians.
,, 18th (Berlin).—Tenth Congress of the German Orthopædic Surgery Society.
,, 19th–22nd (Berlin).—German Surgical Congress. (Fortieth Annual Meeting.)
,, 19th–22nd (Wiesbaden).—Twenty-eighth German Congress of Internal Medicine.
,, 20th–22nd (Groningen).—Thirteenth Nature and Medical Congress.
May 30th (The Hague).—International Congress on Opium.
May (Washington).—Conference on the Protection of Industrial Property. (Question of False Marking of Goods.)
May–October (Dresden).—International Hygiene Exhibition.
May–October (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
May–October (?) (London, Shepherd's Bush).—Coronation Exhibition.
June (Paris).—First Congress of the International Medical Association for the Prevention of War.
,, (Los Angeles, Cal.).—American Medical Association.
June 5th–8th (Kolberg, Prussia).—Fifth International Congress of Thalassotherapy.
June and July (Romford).—Town Planning and Modern House and Cottage Exhibition.
July (Birmingham).—British Medical Association.
July 24th–29th (Belfast).—Congress of the Royal Sanitary Institute.
August 15th–21st (Dublin).—Royal Institute of Public Health.
,, 30th–Sept. 6th (Portsmouth).—British Association.
August or September (Berlin).—Third International Laryngo-Rhinological Congress.
September (Brussels).—Exhibition of Fractures.
,, (Turin).—International Congress of Pathology.
,, (Genoa).—International Exhibition of Marine Hygiene.
September–November (Antwerp).—International Exhibition of Alimentation, Brewing, Wines, and Liqueurs.
Sept. 11th–15th (Berlin).—National Congress for the Study and Prevention of Infantile Mortality (*Gouttes de Lait*).
,, 11th–16th (The Hague).—Thirteenth International Congress on Alcoholism.
,, 18th–23rd (Sydney).—Australasian Medical Congress.
,, 18th–24th (Turin).—Fourth National Congress of Hygiene.
,, 24th–30th (Rome).—International Congress on Tuberculosis.
,, 25th–29th (Rome) Seventh International Congress of Dermatology and Syphilology.
October (Cologne).—International Congress of Criminal Anthropology.
Oct. 1st–4th (Liége).—Second Congress of Alimentation.
Dec. 4th–9th (Havana, Cuba).—American Public Health Association.
(Date not fixed) (Montreal).—Canadian Medical Association.
(Date not fixed) (Rome).—International Exhibition of Social Hygiene.
(Date uncertain) (Turin).—International Exhibition of Industry and Labour.

In 1912:—
Spring (London).—Second Optical Convention.
July (?) (Cologne).—International Congress of Nurses.
September (Prague).—International Congress of Radiology and Medical Electrology.
September (Berlin).—Sixth International Congress of Obstetrics and Gynæcology.
,, Visit of German Medical Men to America.
Nov. 22nd–29th (Washington, D.C.).—Fifteenth International Congress of Hygiene and Demography.

In 1913:—
(London).—Seventeenth International Congress of Medicine.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(Dresden (?)).—International Conference on Cancer.
(Washington).—Congress of American Physicians and Surgeons.
August (Buffalo).—Fourth International Congress of School Hygiene.

In 1914:—
(Vienna).—Third International Congress for Professional Diseases.

In 1915:—
(London).—International Prison Congress.
(London).—Imperial Exhibition (?)

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 1st, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 26	30·37	W.	...	69	53	45	47	48	Cloudy
,, 27	30·45	W.	...	50	47	45	43	46	Overcast
,, 28	30·46	S.W.	...	51	49	40	40	40	Overcast
,, 29	30·43	E.	...	54	41	36	37	37	Foggy
,, 30	30·32	E.	...	70	42	35	37	39	Cloudy
,, 31	30·62	S.E.	...	60	37	32	30	32	Fine
Feb. 1	30·75	E.	...	45	37	26	—	27	Foggy

The following journals, magazines, &c., have been received:—Clinical Journal, Liverpool Journal of Commerce, The Referee, British Journal of Dermatology, Weekly Bulletin of the St. Louis Medical Society, Bulletin of the Manila Medical Society, Sanitary Record, Local Government Chronicle, St. Mary's Hospital Gazette, Optician, The Mining Journal, Broad Arrow, Army and Navy Gazette, Folia Therapeutica, Bulletin de l'Académie de Médecine, Archivos Españoles de Neurologia, Psiquiatria y Fisioterapia, Illinois State Board of Health Bulletin, La Clinique Infantile, La Presse Médicale Belge, Hospital Assistant (India), Paris Médical, Quinzaine Thérapeutique, Tidsskrift for den Norske Laegeforening,

Annali di Medicina Navale, Nederlandsch Tijdschrift voor Geneeskunde, Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, La Belgique Médicale, Annales de Gynécologie, Sleeping Sickness Bureau Bulletin, Gazzetta Degli Ospedali, Gazette Hebdomadaire des Sciences Médicales de Bordeaux, Guy's Hospital Gazette, The Therapist, Pioneer Mail, Indian Engineering, Medicinische Blatter, The Engineer, Surrey Advertiser, Morning News, Jersey, The Grocer, Literary Digest, Bio-Chemical Journal, Revue d'Hygiène, Peru To-day, Bulletin of the Johns Hopkins Hospital, Monthly Cyclopædia of Medicine, Medical Review of Reviews, Annali dell Istituto Maragliano, Official Gazette of the United States Patent Office, Journal of Meat and Milk Hygiene, Gazette des Sciences Médicales de Bordeaux, Gazette Médicale de Paris, Annales des Maladies des Organes Génito-Urinaires, Times of India, Allgemeine Medizinische Central-Zeitung, British Journal of Dermatology, The Mining Journal, The Journal of Obstetrics and Gynæcology, Critic and Guide, Annales de l'Institut Pasteur, La Presse Médicale Belge, The Transvaal Medical Journal, The Military Surgeon, Tommasi, Presse Médicale d'Égypte, Bulletin de la Société de l'Internat des Hôpitaux de Paris, Cornhill Magazine, Journal of Pathology, The Contemporary Review.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—C. Bolton, J. C. G. Ledingham), at National Hospital, Queen-square, W.C.: at 8.30 P.M.

Laboratory Meeting:

Dr. C. M. H. Howell: (1) Changes in the Central Nervous System Probably Resulting from the Administration of "606"; (2) The Pathology of Paraplegia in Spinal Caries; (3) Examination of the Central Nervous System in a Case of Syphilis in a Girl aged 21 Years.

Dr. F. W. Mott, F.R.S.: The Changes in the Nervous System in Amaurotic Idiocy.

And other Papers.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Albert Carless, James Galloway): at 8 P.M.

Cases:

Dr. H. Fletcher Morley: Infantilism with Genu Valgum and Chronic Nephritis.

Dr. H. D. Rolleston and Dr. C. H. S. Taylor: A Result of "Late Rickets."

And other Cases.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—9 P.M., Lettsomian Lecture:—Mr. W. F. Haslam: A Review of the Operations for Stone in the Male Bladder. (Lecture I.)

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Dr. J. H. Sequeira: The Progress of Dermatology since Hunter's Time. (Hunterian Oration.)

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

WEDNESDAY.—5 P.M., Fleet-Surgeon R. C. Munday, R.N.: Beri-Beri, its History in the Navy and in the Persian Gulf.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Prof. W. E. Dixon: The Codex and the Medical Profession.—Mr. W. J. U. Woolcock: The Codex and Pharmacy.

OPHTHALMOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Card Specimens by Mr. Grimsdale and Mr. Brewerton. Paper: Mr. L. Paton and Dr. G. Holmes: Histopathology of Papilloedema.

CHILD STUDY SOCIETY, LONDON, 90, Buckingham-Palace-road, S.W.

THURSDAY.—7.30 P.M., Mr. C. J. Sharp: Recreational Activities: English Folk Dances (with demonstrations).

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Mr. J. Clarke: Two Cases of Abscess of Liver Complicating Appendicitis.—Dr. McCann: The Surgical Treatment of Sterility in Women.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY AND WEDNESDAY.—5 P.M., Prof. W. d'Esté Emery: The Immunity Reaction in Relation to Surgical Diagnosis.

FRIDAY.—5 P.M., Prof. B. Moore: New Views on the Chemical Composition and Mode of Formation of Renal Calculi, and the Metabolism of Calcium in Gout and Allied Conditions.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Prof. W. Osler: Arterio-Venous Aneurysm.

TUESDAY.—4 P.M., Dr. P. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Mr. R. H. A. Whitelocke (Oxford): Essentials to Modern Treatment of Fractures.

WEDNESDAY.—4 P.M., Mr. D. C. L. Fitzwilliams: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. L. Mummery: Piles, their Pathology and Treatment (continued).

THURSDAY.—4 P.M., Dr. R. Wells: Clinique (Medical). 5.15 P.M., Lecture:—Dr. W. Carr: Mixed Morbid Conditions in the Chest.

FRIDAY.—4 P.M., Dr. D. Grant: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Dunn: The Tragedies of Ocular Disease.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M.: Mr. Bitherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. S. Taylor: Rheumatism in Childhood.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Dr. Simson: Gynæcological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. G. Stewart: Disseminated Sclerosis (with cases).

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture: Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. G. Stewart: Early Cases of General Paralysis.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Practical Medicine.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 4.30 P.M., Special Lecture:—Dr. C. Hughes: Anæsthetics.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Differential Diagnosis of Common Diseases of the Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4.30 P.M., Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Dr. C. O. Hawthorne: Diphtheria, its Later Manifestations.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. E. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. A. G. Auld). Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 2.30 P.M., Operations. 3.30 P.M., Medical In-patient: (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. A. G. Auld: Fibroid Phthisis.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. T. R. Whipham: Empyema.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. R. Russell: Muscular Atrophy.

FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. D. Armour: Paraplegia and Pott's Disease.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY AND FRIDAY.—3.45 P.M., Lecture:—Dr. D. McKenzie: Ear.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

TUESDAY.—5.15 P.M., Demonstration:—Mr. O. L. Addison: General Surgical Diseases—Acute and Chronic Inflammatory Lesions of Bone, Syphilis, Tuberculosis, &c. (Special Post-Graduate Course.)

THURSDAY.—4 P.M., Demonstration—Mr. Kellock: Surgical Cases.

FRIDAY.—5.15 P.M., Demonstration:—Mr. O. L. Addison: General Surgical Diseases—Diseases of Bone (continued). Tumours, Fractures, Separation of Epiphyses, Dislocations. (Special Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Fungous Diseases of the Skin.—I., Tinea Circinata; II., Tinea Imbricata; III., Tinea Versicolor; IV., Erythrasma; V., Actinomycosis: VI., Madura Foot.

LONDON HOSPITAL MEDICAL COLLEGE, Clinical Theatre, London Hospital, Mile End-road, E.

TUESDAY.—1 P.M., Clinical Surgery Lecture:—Mr. R. H. Fenwick: A Method for the Accurate Measurements of the Movements of the Human Kidney before Operation, and its Bearing on Renal Surgery.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. W. R. Douglas: Differential Diagnosis of Chronic Neck Swellings. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor. 9 A.M., Major, 2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

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